



YAMAHA



Read this manual carefully before operating this vehicle.

OWNER'S MANUAL

nuvo

AT135

5P0-F8199-E1

 **Read this manual carefully before operating this vehicle. This manual should stay with this vehicle if it is sold.**

INTRODUCTION

EAU10102

Welcome to the Yamaha world of motorcycling!

As the owner of the AT135, you are benefiting from Yamaha's vast experience and newest technology regarding the design and manufacture of high-quality products, which have earned Yamaha a reputation for dependability.

Please take the time to read this manual thoroughly, so as to enjoy all advantages of your AT135. The Owner's Manual does not only instruct you in how to operate, inspect and maintain your motorcycle, but also in how to safeguard yourself and others from trouble and injury.

In addition, the many tips given in this manual will help keep your motorcycle in the best possible condition. If you have any further questions, do not hesitate to contact your Yamaha dealer.

The Yamaha team wishes you many safe and pleasant rides. So, remember to put safety first!

Yamaha continually seeks advancements in product design and quality. Therefore, while this manual contains the most current product information available at the time of printing, there may be minor discrepancies between your motorcycle and this manual. If there is any question concerning this manual, please consult a Yamaha dealer.

EWA10031



WARNING

Please read this manual carefully and completely before operating this motorcycle.

IMPORTANT MANUAL INFORMATION

Particularly important information is distinguished in this manual by the following notations:

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
 WARNING	A WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
NOTICE	A NOTICE indicates special precautions that must be taken to avoid damage to the vehicle or other property.
TIP	A TIP provides key information to make procedures easier or clearer.

IMPORTANT MANUAL INFORMATION

EAU37430

AT135

OWNER'S MANUAL

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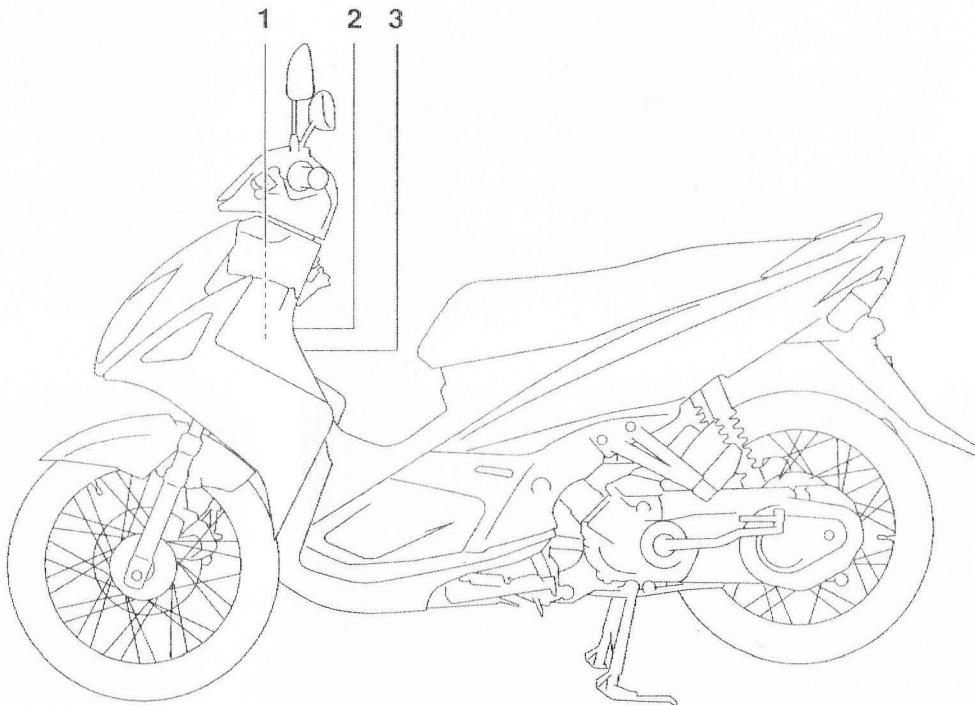
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LOCATION OF IMPORTANT LABELS

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Read and understand all of the labels on your vehicle. They contain important information for safe and proper operation of your vehicle. Never remove any labels from your vehicle. If a label becomes difficult to read or comes off, a replacement label is available from your Yamaha dealer.

1



ZAUU0344

1-1

SAFETY INFORMATION

Be a Responsible Owner

As the vehicle's owner, you are responsible for the safe and proper operation of your motorcycle.

Motorcycles are single-track vehicles. Their safe use and operation are dependent upon the use of proper riding techniques as well as the expertise of the operator. Every operator should know the following requirements before riding this motorcycle.

He or she should:

- Obtain thorough instructions from a competent source on all aspects of motorcycle operation.
- Observe the warnings and maintenance requirements in this Owner's Manual.
- Obtain qualified training in safe and proper riding techniques.
- Obtain professional technical service as indicated in this Owner's Manual and/or when made necessary by mechanical conditions.

EAU10313

Safe Riding

Perform the pre-operation checks each time you use the vehicle to make sure it is in safe operating condition. Failure to inspect or maintain the vehicle properly increases the possibility of an accident or equipment damage. See page 5-1 for a list of pre-operation checks.

- This motorcycle is designed to carry the operator and a passenger.
- The failure of motorists to detect and recognize motorcycles in traffic is the predominating cause of automobile/motorcycle accidents. Many accidents have been caused by an automobile driver who did not see the motorcycle. Making yourself conspicuous appears to be very effective in reducing the chance of this type of accident.

Therefore:

- Wear a brightly colored jacket.
- Use extra caution when you are approaching and passing through intersections, since in-

tersections are the most likely places for motorcycle accidents to occur.

- Ride where other motorists can see you. Avoid riding in another motorist's blind spot.
- Many accidents involve inexperienced operators. In fact, many operators who have been involved in accidents do not even have a current motorcycle license.
- Make sure that you are qualified and that you only lend your motorcycle to other qualified operators.
- Know your skills and limits. Staying within your limits may help you to avoid an accident.
- We recommend that you practice riding your motorcycle where there is no traffic until you have become thoroughly familiar with the motorcycle and all of its controls.
- Many accidents have been caused by error of the motorcycle operator. A typical error made by

2

SAFETY INFORMATION

2

the operator is veering wide on a turn due to excessive speed or undercornering (insufficient lean angle for the speed).

- Always obey the speed limit and never travel faster than warranted by road and traffic conditions.
- Always signal before turning or changing lanes. Make sure that other motorists can see you.
- The posture of the operator and passenger is important for proper control.
- The operator should keep both hands on the handlebar and both feet on the operator footrests during operation to maintain control of the motorcycle.
- The passenger should always hold onto the operator, the seat strap or grab bar, if equipped, with both hands and keep both feet on the passenger footrests. Never carry a passenger unless he or she can firmly place both feet on the passenger footrests.

- Never ride under the influence of alcohol or other drugs.

Protective apparel

The majority of fatalities from motorcycle accidents are the result of head injuries. The use of a safety helmet is the single most critical factor in the prevention or reduction of head injuries.

- Always wear an approved helmet.
- Wear a face shield or goggles. Wind in your unprotected eyes could contribute to an impairment of vision that could delay seeing a hazard.
- The use of a jacket, heavy boots, trousers, gloves, etc., is effective in preventing or reducing abrasions or lacerations.
- Never wear loose-fitting clothes, otherwise they could catch on the control levers, footrests, or wheels and cause injury or an accident.
- Always wear protective clothing that covers your legs, ankles, and feet. The engine or exhaust sys-

tem become very hot during or after operation and can cause burns.

- A passenger should also observe the above precautions.

Avoid Carbon Monoxide Poisoning

All engine exhaust contains carbon monoxide, a deadly gas. Breathing carbon monoxide can cause headaches, dizziness, drowsiness, nausea, confusion, and eventually death.

Carbon Monoxide is a colorless, odorless, tasteless gas which may be present even if you do not see or smell any engine exhaust. Deadly levels of carbon monoxide can collect rapidly and you can quickly be overcome and unable to save yourself. Also, deadly levels of carbon monoxide can linger for hours or days in enclosed or poorly ventilated areas. If you experience any symptoms of carbon monoxide poisoning, leave the area immediately, get fresh air, and SEEK MEDICAL TREATMENT.

⚠ SAFETY INFORMATION

- Do not run engine indoors. Even if you try to ventilate engine exhaust with fans or open windows and doors, carbon monoxide can rapidly reach dangerous levels.
- Do not run engine in poorly ventilated or partially enclosed areas such as barns, garages, or carports.
- Do not run engine outdoors where engine exhaust can be drawn into a building through openings such as windows and doors.

Loading

Adding accessories or cargo to your motorcycle can adversely affect stability and handling if the weight distribution of the motorcycle is changed. To avoid the possibility of an accident, use extreme caution when adding cargo or accessories to your motorcycle. Use extra care when riding a motorcycle that has added cargo or accessories. Here, along with the information about accessories below, are some general

guidelines to follow if loading cargo to your motorcycle:

The total weight of the operator, passenger, accessories and cargo must not exceed the maximum load limit. Operation of an overloaded vehicle could cause an accident.

Maximum load:

160 kg (353 lb)

When loading within this weight limit, keep the following in mind:

- Cargo and accessory weight should be kept as low and close to the motorcycle as possible. Securely pack your heaviest items as close to the center of the vehicle as possible and make sure to distribute the weight as evenly as possible on both sides of the motorcycle to minimize imbalance or instability.
- Shifting weights can create a sudden imbalance. Make sure that accessories and cargo are securely attached to the motorcycle before riding. Check accessory mounts and cargo restraints frequently.
- Properly adjust the suspension for your load, and check the condition and pressure of your tires.
- Never attach any large or heavy items to the handlebar, front fork, or front fender. These items, including such cargo as sleeping bags, duffel bags, or tents, can create unstable handling or a slow steering response.
- **This vehicle is not designed to pull a trailer or to be attached to a sidecar.**

Genuine Yamaha Accessories

Choosing accessories for your vehicle is an important decision. Genuine Yamaha accessories, which are available only from a Yamaha dealer, have been designed, tested, and approved by Yamaha for use on your vehicle.

SAFETY INFORMATION

2

Many companies with no connection to Yamaha manufacture parts and accessories or offer other modifications for Yamaha vehicles. Yamaha is not in a position to test the products that these aftermarket companies produce. Therefore, Yamaha can neither endorse nor recommend the use of accessories not sold by Yamaha or modifications not specifically recommended by Yamaha, even if sold and installed by a Yamaha dealer.

Aftermarket Parts, Accessories, and Modifications

While you may find aftermarket products similar in design and quality to genuine Yamaha accessories, recognize that some aftermarket accessories or modifications are not suitable because of potential safety hazards to you or others. Installing aftermarket products or having other modifications performed to your vehicle that change any of the vehicle's design or operation characteristics can put you and others at greater risk of serious injury or death.

You are responsible for injuries related to changes in the vehicle.

Keep the following guidelines in mind, as well as those provided under "Loading" when mounting accessories.

- Never install accessories or carry cargo that would impair the performance of your motorcycle. Carefully inspect the accessory before using it to make sure that it does not in any way reduce ground clearance or cornering clearance, limit suspension travel, steering travel or control operation, or obscure lights or reflectors.
- Accessories fitted to the handlebar or the front fork area can create instability due to improper weight distribution or aerodynamic changes. If accessories are added to the handlebar or front fork area, they must be as lightweight as possible and should be kept to a minimum.
- Bulky or large accessories may seriously affect the stability of the motorcycle due to aerodynamic effects. Wind may attempt to lift the motorcycle, or the motorcycle may become unstable in cross winds. These accessories may also cause instability when passing or being passed by large vehicles.
- Certain accessories can displace the operator from his or her normal riding position. This improper position limits the freedom of movement of the operator and may limit control ability, therefore, such accessories are not recommended.
- Use caution when adding electrical accessories. If electrical accessories exceed the capacity of the motorcycle's electrical system, an electric failure could result, which could cause a dangerous loss of lights or engine power.

Aftermarket Tires and Rims

The tires and rims that came with your motorcycle were designed to match the performance capabilities and to

⚠ SAFETY INFORMATION

provide the best combination of handling, braking, and comfort. Other tires, rims, sizes, and combinations may not be appropriate. Refer to page 7-18 for tire specifications and more information on replacing your tires.

Helmets

EAUJU0030

Operating this vehicle without an approved motorcycle helmet increases your chances of a severe head injury or death in the event of an accident. The majority of fatalities from motorcycle or scooter accidents are the result of head injuries. The use of a safety helmet is the single most critical factor in the prevention or reduction of head injuries.

Always select an approved motorcycle helmet

Pay attention to the following when choosing a motorcycle helmet.

- The helmet must meet the safety standard "TIS".
- The helmet size must match the size of the rider's head.
- Never subject a helmet to heavy shocks.

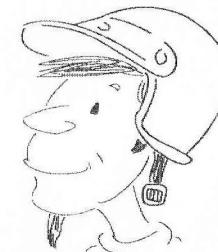
ZAUU0003



2

Correctly helmet wearing

ZAUU0007



Incorrectly helmet wearing

Wearing the helmet correctly

Always connect the chin strap. In the case of an accident, the helmet has a much less chance of coming off if the chin strap is connected.

⚠ SAFETY INFORMATION

Types of helmets and their usage

- Half-type: use only for riding at low speeds

2



ZAUU0004

- Full-type: use only for riding at low to mid-range speeds



ZAUU0005

- Full-face-type: use for riding at mid-range to high speeds



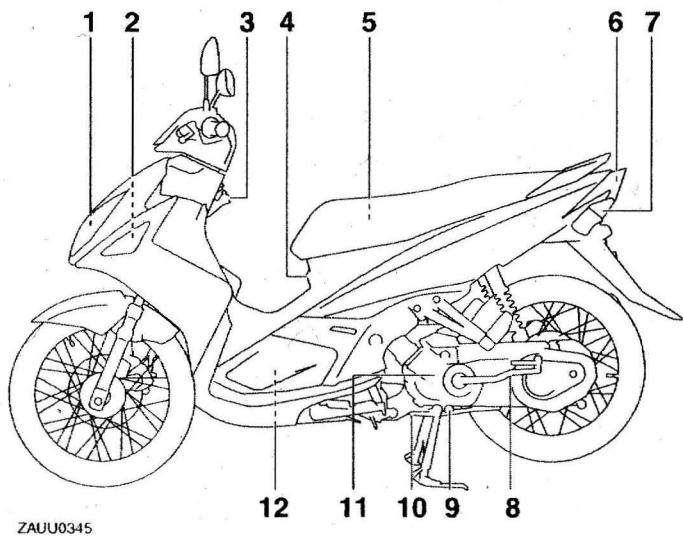
ZAUU0006

DESCRIPTION

EAU10410

Left view

3

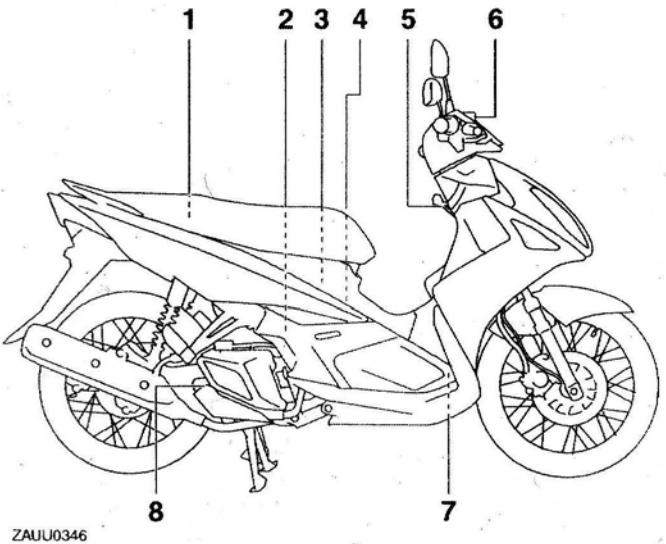


1. Headlight/auxiliary lights (page 7-30, 7-33)
2. Front turn signal lights (page 7-33)
3. Convenience hook (page 4-10)
4. Throttle stop screw (page 7-16)
5. Owner's tool kit (page 7-1)
6. Tail/brake light (page 7-31)
7. Rear turn signal lights (page 7-32)
8. Kickstarter (page 4-9)
9. Engine oil drain bolt A (page 7-9)
10. Engine oil drain bolt B (page 7-9)
11. V-belt case air filter element (page 7-13)
12. Air filter element (page 7-13)

DESCRIPTION

Right view

3



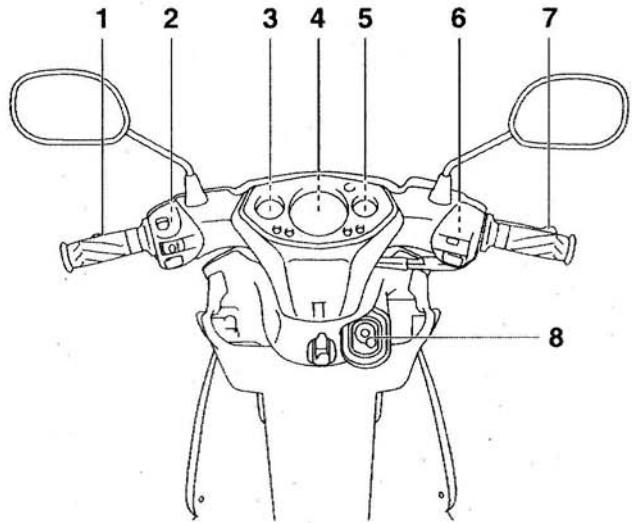
1. Fuel tank cap (page 4-6)
2. Fuse/starter relay (page 7-29)
3. Storage compartment (page 4-11)
4. Battery (page 7-28)
5. Seat lock (page 4-9)
6. Front brake fluid reservoir (page 7-22)
7. Coolant reservoir (page 7-12)
8. Dipstick (page 7-9)

DESCRIPTION

EAU10430

Controls and instruments

3



ZAUU0347

Brake lever (page 4-6)

Handlebar switches (page 4-5)

Gauge (page 4-4)

Odometer (page 4-3)

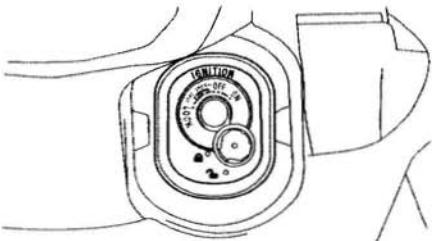
Coolant temperature gauge/odometer (page 4-4)

Handlebar switches (page 4-5)

Gauge (page 4-5)

INSTRUMENT AND CONTROL FUNCTIONS

Main switch/steering lock



4

ZAUU0348

The main switch/steering lock controls the ignition and lighting systems, and is used to lock the steering, and is used to open the seat also. The various main switch positions are described below.

TIP

The main switch is equipped with a keyhole cover. (See page 4-2 for keyhole cover opening and closing procedures.)

EAU00350

ON

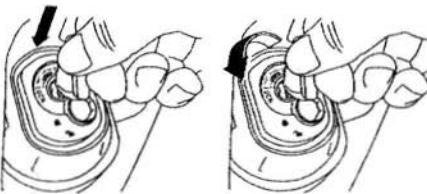
All electrical circuits are supplied with power, and the engine can be started. The key cannot be removed.

TIP

The headlight, auxiliary lights, meter lighting and taillight come on automatically when the engine is started.

EAU37441

To lock the steering



ZAUU0349

OFF

All electrical systems are off. The key can be removed.

EAU10661

EWA10061

WARNING

Never turn the key to "OFF" or "LOCK" while the vehicle is moving. Otherwise the electrical systems will be switched off, which may result in loss of control or an accident.

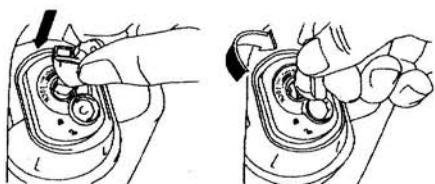
LOCK

The steering is locked, and all electrical systems are off. The key can be removed.

EAU10701

INSTRUMENT AND CONTROL FUNCTIONS

To unlock the steering



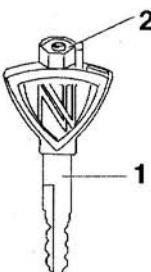
ZAUU0350

Insert the key and turn it to "OFF".

Keyhole cover

EAUU0070

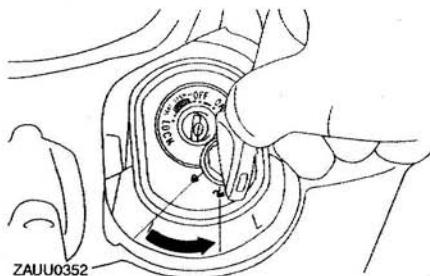
turn the key to the left to open the cover.



ZAUU0351

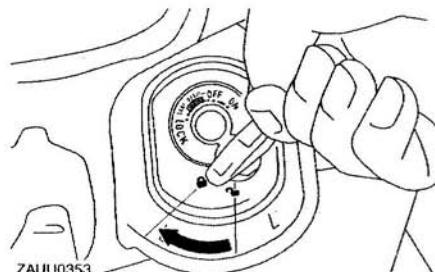
1. Ignition key
2. Safety key

To open the keyhole cover



Insert the key head into the keyhole cover receptacle as shown, and then

To close the keyhole cover

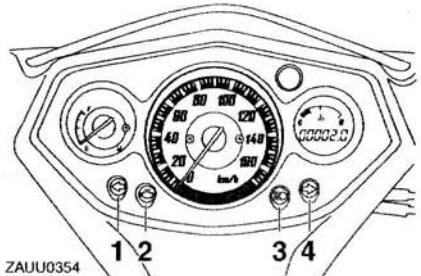


4

Insert the key head into the keyhole cover receptacle as shown, and then turn the key to the right to close the cover.

INSTRUMENT AND CONTROL FUNCTIONS

Indicator and warning lights



4

ZAUU0354

1. Left-turn signal indicator light “ \leftarrow ”
2. Engine trouble warning light “ $\text{!}\text{○}$ ”
3. High beam indicator light “ $\text{!}\text{○}$ ”
4. Right-turn signal indicator light “ \rightarrow ”

Turn signal indicator light “ $\leftarrow \rightarrow$ ”

This indicator light flashes when the turn signal switch is pushed to the left or right.

High beam indicator light “ $\text{!}\text{○}$ ”

This indicator light comes on when the high beam of the headlight is switched on.

EAU11004

Engine trouble warning light “ $\text{!}\text{○}$ ”

This warning light comes on if a problem is detected in the electrical circuit monitoring the engine. If this occurs, have a Yamaha dealer check the self-diagnosis system.

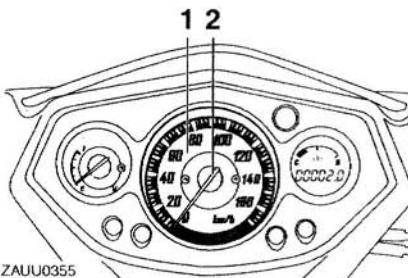
The electrical circuit of the warning light can be checked by turning the key to “ON”. The warning light should come on for a few seconds, and then go off. If the warning light does not come on initially when the key is turned to “ON”, or if the warning light remains on, have a Yamaha dealer check the electrical circuit.

EAU11020

EAU11080

EAU11484

Speedometer

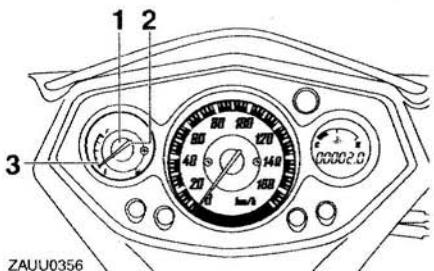


1. Speedometer
2. Speedometer needle

The speedometer shows the riding speed. When the key is turned to “ON”, the speedometer needle will sweep once across the speed range and then return to zero in order to test the electrical circuit.

INSTRUMENT AND CONTROL FUNCTIONS

Fuel gauge



1. Fuel gauge
2. Fuel gauge needle
3. Red zone

The fuel gauge indicates the amount of fuel in the fuel tank. When the key is turned to "ON", the fuel gauge needle will sweep once across the fuel level range and then return to "E" (Empty) in order to test the electrical circuit. The needle moves towards "E" as the fuel level decreases. When the needle reaches the red zone, approximately 1.0 L (0.26 US gal) (0.22 Imp.gal) remain in the fuel tank. If this occurs, refuel as soon as possible.

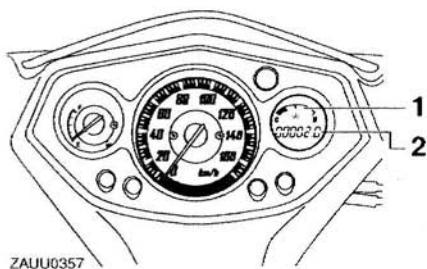
EAU44981

TIP

Do not allow the fuel tank to empty itself completely.

EAU0361

Digital coolant temperature gauge/odometer



4

1. Digital coolant temperature gauge
2. Digital odometer

When the key is turned to "ON", the display segments of the digital coolant temperature gauge will sweep once across the temperature range and then return to "C" in order to test the electrical circuit.

The odometer shows the total distance traveled.

ECA10021

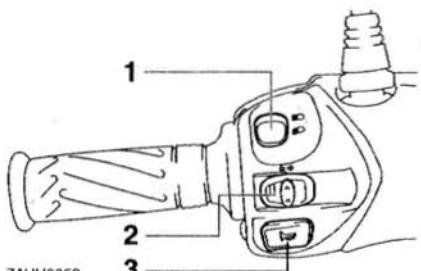
NOTICE

Do not continue to operate the engine if it is overheating.

INSTRUMENT AND CONTROL FUNCTIONS

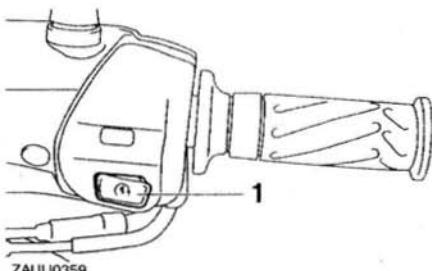
Handlebar switches

Left



1. Dimmer switch "H/L"
2. Turn signal switch "↔/↔"
3. Horn switch "삑"

Right



1. Start switch "Ⓐ"

EAU12348

Dimmer switch "H/L"

Set this switch to "H" for the high beam and to "L" for the low beam.

EAU12400

Turn signal switch "↔/↔"

To signal a right-hand turn, push this switch to "↔". To signal a left-hand turn, push this switch to "↔". When released, the switch returns to the center position. To cancel the turn signal lights, push the switch in after it has returned to the center position.

EAU12460

Horn switch "삑"

Press this switch to sound the horn.

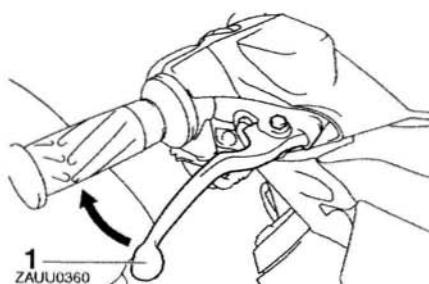
EAU12500

Start switch "Ⓐ"

Push this switch while applying the front or rear brake to crank the engine with the starter. See page 6-1 for starting instructions prior to starting the engine.

EAUM1132

Front brake lever

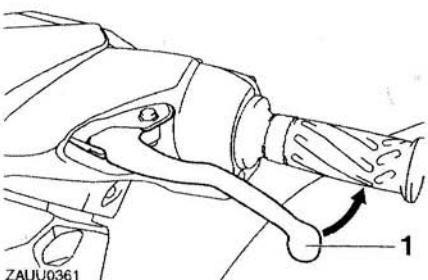


1. Front brake lever

The front brake lever is located on the right handlebar grip. To apply the front brake, pull this lever toward the handlebar grip.

INSTRUMENT AND CONTROL FUNCTIONS

Rear brake lever

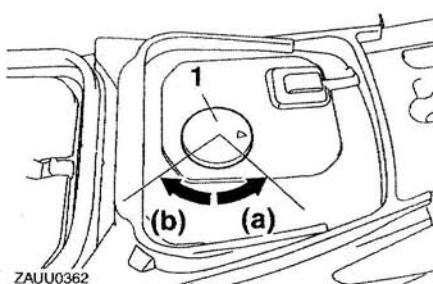


1. Rear brake lever

The rear brake lever is located on the left handlebar grip. To apply the rear brake, pull this lever toward the handlebar grip.

EAU12950

Fuel tank cap



1. Fuel tank cap

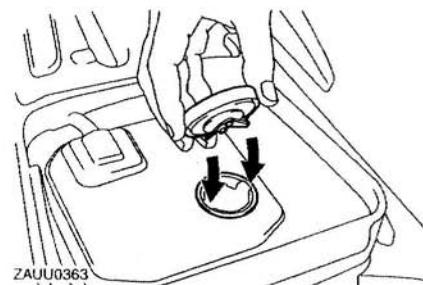
- Open.
- Close.

To remove the fuel tank cap

- Open the seat. (See page 4-9.)
- Turn the fuel tank cap counter-clockwise and pull it off.

EAU37471

To install the fuel tank cap



- Insert the fuel tank cap into the tank opening and turn it clockwise until the "△" marks on the cap and tank are aligned.
- Close the seat.

4

EWA11091

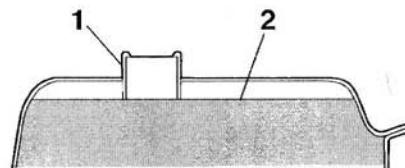
WARNING

Make sure that the fuel tank cap is properly closed after filling fuel. Leaking fuel is a fire hazard.

INSTRUMENT AND CONTROL FUNCTIONS

Fuel

EAU13212



ZAUU0026

4

1. Fuel tank filler tube
2. Fuel level

Make sure there is sufficient gasoline in the tank.

EWA10881

! WARNING

Gasoline and gasoline vapors are extremely flammable. To avoid fires and explosions and to reduce the risk of injury when refueling, follow these instructions.

1. Before refueling, turn off the engine and be sure that no one is sitting on the vehicle. Never refuel while smoking, or while in the vicinity of sparks, open flames, or

other sources of ignition such as the pilot lights of water heaters and clothes dryers.

2. Do not overfill the fuel tank. Stop filling when the fuel reaches the bottom of the filler tube. Because fuel expands when it heats up, heat from the engine or the sun can cause fuel to spill out of the fuel tank.
3. Wipe up any spilled fuel immediately. **NOTICE:** Immediately wipe off spilled fuel with a clean, dry, soft cloth, since fuel may deteriorate painted surfaces or plastic parts. [ECA10071]
4. Be sure to securely close the fuel tank cap.

EWA15151

! WARNING

Gasoline is poisonous and can cause injury or death. Handle gasoline with care. Never siphon gasoline by mouth. If you should swallow some gasoline or inhale a lot of gasoline vapor, or get some gasoline in your eyes, see your doctor immedi-

ately. If gasoline spills on your skin, wash with soap and water. If gasoline spills on your clothing, change your clothes.

EAUU0042

Recommended fuel:

Regular unleaded gasoline or gasohol (91 min. pump octane)

Fuel tank capacity:

4.8 L (1.27 US gal) (1.06 Imp.gal)

ECA11400

NOTICE

Use only unleaded gasoline. The use of leaded gasoline will cause severe damage to internal engine parts, such as the valves and piston rings, as well as to the exhaust system.

Gasohol

Gasohol is a mixture of unleaded gasoline and ethanol. Gasohol contains 90% gasoline and 10% ethanol which is called "E10".

Yamaha products can use gasohol [E10] Octane 91 or higher. However,

INSTRUMENT AND CONTROL FUNCTION

en filling with gasohol, cold engine starting may be difficult. Therefore, be sure to follow the procedures in "Starting a cold engine".

ECAU0010

NOTICE
Using gasohol may cause engine trouble depending on the engine. If gasohol is used and engine trouble occurs, contact your Yamaha dealer as soon as possible.

EAU13433

Catalytic converter

This model is equipped with a catalytic converter in the exhaust system.

EWA10862

WARNING

The exhaust system is hot after operation. To prevent a fire hazard or burns:

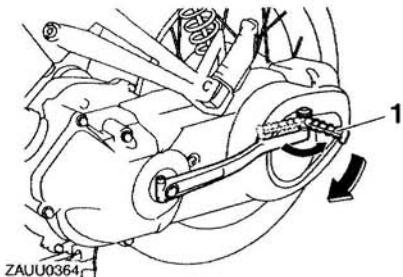
- Do not park the vehicle near possible fire hazards such as grass or other materials that easily burn.
- Park the vehicle in a place where pedestrians or children are not likely to touch the hot exhaust system.
- Make sure that the exhaust system has cooled down before doing any maintenance work.
- Do not allow the engine to idle more than a few minutes. Long idling can cause a build-up of heat.

NOTICE

Use only unleaded gasoline. Use of leaded gasoline will cause unrepairable damage to the catalytic converter.

INSTRUMENT AND CONTROL FUNCTIONS

Kickstarter



4

1. Kickstarter

If the engine fails to start by pushing the start switch, try to start it by using the kickstarter. To start the engine, fold out the kickstarter lever, move it down lightly with your foot until the gears engage, and then push it down smoothly but forcefully.

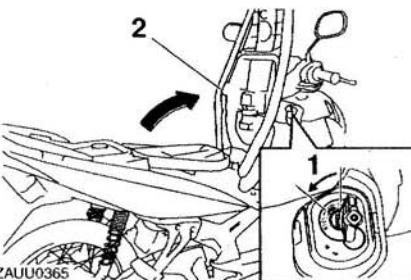
EAU37650

Seat

EAU0370

To open the seat

1. Place the motorcycle on the centerstand.
2. Insert the key into the main switch, and then turn it counterclockwise to "OPEN".



1. Seat lock
2. Seat

TIP

Do not push inward when turning the key.

3. Fold the seat up.

To close the seat

1. Fold the seat down, and then push it down to lock it in place.
2. Remove the key from the main switch if the motorcycle will be left unattended.

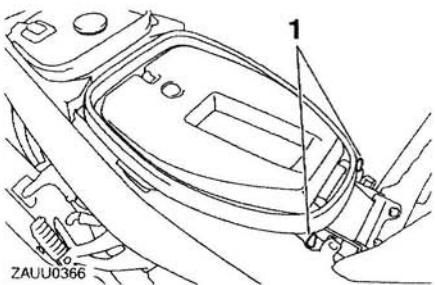
TIP

Make sure that the seat is properly secured before riding.

INSTRUMENT AND CONTROL FUNCTIONS

Helmet holders

EAU37481



1. Helmet holder

The helmet holders are located under the seat.

To secure a helmet to a helmet holder

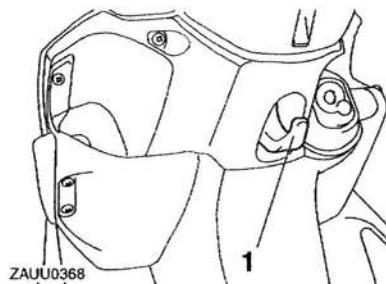
1. Open the seat. (See page 4-9.)
2. Attach a helmet to a helmet holder, and then securely close the seat. **WARNING!** Never ride with a helmet attached to the helmet holder, since the helmet may hit objects, causing loss of control and possibly an accident. [EWA10161]

To release a helmet from a helmet holder

Open the seat, remove the helmet from the helmet holder, and then close the seat.

EAUU0390

Convenience hook



1. Convenience hook

EWAU0010

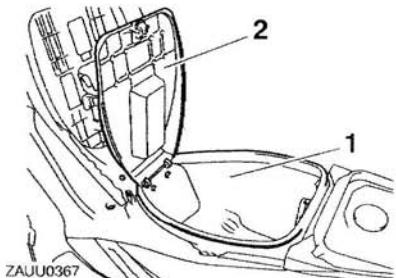
WARNING

- Do not exceed the load limit of 1.0 kg (2.2 lb) for the convenience hook.
- Do not exceed the maximum load of 160 kg (353 lb) for the motorcycle.

4

INSTRUMENT AND CONTROL FUNCTIONS

Storage compartment



4

1. Storage compartment
2. Cover

There is a storage compartment equipped with a lid under the seat. (See page 4-9 for seat opening and closing procedures.)

EWA10961

EAU0381

ECA10080

TIP

- Some helmets cannot be stored in the storage compartment because of their size or shape.
- Do not leave your motorcycle unattended with the seat open.

NOTICE

Keep the following points in mind when using the storage compartment.

- Since the storage compartment accumulates heat when exposed to the sun, do not store anything susceptible to heat inside it.
- To avoid humidity from spreading through the storage compartment, wrap wet articles in a plastic bag before storing them in the compartment.
- Since the storage compartment may get wet while the scooter is being washed, wrap any articles stored in the compartment in a plastic bag.
- Do not keep anything valuable or breakable in the storage compartment.

To store a helmet in the storage compartment, place the helmet upside-down with the front facing forward.

WARNING

- Do not exceed the load limit of 5.0 kg (11.0 lb) for the storage compartment.
- Do not exceed the maximum load of 160 kg (353 lb) for the vehicle.

FOR YOUR SAFETY – PRE-OPERATION CHECKS

EAU15596

Inspect your vehicle each time you use it to make sure the vehicle is in safe operating condition. Always follow the inspection and maintenance procedures and schedules described in the Owner's Manual.

EWA11151

! WARNING

Failure to inspect or maintain the vehicle properly increases the possibility of an accident or equipment damage. Do not operate the vehicle if you find any problem. If a problem cannot be corrected by the procedures provided in this manual, have the vehicle inspected by a Yamaha dealer.

Before using this vehicle, check the following points:

ITEM	CHECKS	PAGE
Fuel	<ul style="list-style-type: none"> • Check fuel level in fuel tank. • Refuel if necessary. • Check fuel line for leakage. 	4-7
Engine oil	<ul style="list-style-type: none"> • Check oil level in engine. • If necessary, add recommended oil to specified level. • Check vehicle for oil leakage. 	7-9
Final transmission oil	<ul style="list-style-type: none"> • Check vehicle for oil leakage. 	7-11
Coolant	<ul style="list-style-type: none"> • Check coolant level in reservoir. • If necessary, add recommended coolant to specified level. • Check cooling system for leakage. 	7-12
Front brake	<ul style="list-style-type: none"> • Check operation. • If soft or spongy, have Yamaha dealer bleed hydraulic system. • Check brake pads for wear. • Replace if necessary. • Check fluid level in reservoir. • If necessary, add recommended brake fluid to specified level. • Check hydraulic system for leakage. 	7-22

5

FOR YOUR SAFETY – PRE-OPERATION CHECKS

ITEM	CHECKS	PAGE
Rear brake	<ul style="list-style-type: none"> • Check operation. • Lubricate cable if necessary. • Check lever free play. • Adjust if necessary. 	7-21, 7-24
Throttle grip	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Check cable free play. • If necessary, have Yamaha dealer adjust cable free play and lubricate cable and grip housing. 	7-17, 7-24
Control cables	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate if necessary. 	7-24
Wheels and tires	<ul style="list-style-type: none"> • Check for damage. • Check tire condition and tread depth. • Check air pressure. • Correct if necessary. 	7-18, 7-20
Brake levers	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate lever pivoting points if necessary. 	7-25
Centerstand, sidestand	<ul style="list-style-type: none"> • Make sure that operation is smooth. • Lubricate pivots if necessary. 	7-25
Chassis fasteners	<ul style="list-style-type: none"> • Make sure that all nuts, bolts and screws are properly tightened. • Tighten if necessary. 	—
Instruments, lights, signals and switches	<ul style="list-style-type: none"> • Check operation. • Correct if necessary. 	—

OPERATION AND IMPORTANT RIDING POINTS

EAU15951

Read the Owner's Manual carefully to become familiar with all controls. If there is a control or function you do not understand, ask your Yamaha dealer.

EWA10271

WARNING

Failure to familiarize yourself with the controls can lead to loss of control, which could cause an accident or injury.

EAUT1101

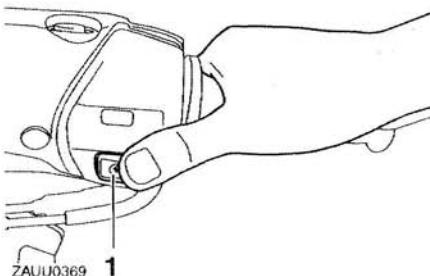
Starting a cold engine

ECA10250

NOTICE

See page 6-3 for engine break-in instructions prior to operating the vehicle for the first time.

4. If the engine fails to start by pushing the start switch, release the switch, wait a few seconds, and then try again. Each starting attempt should be as short as possible to preserve the battery. Do not crank the engine more than 5 seconds on any one attempt. If the engine does not start with the starter motor, try using the kickstarter.



1. Start switch “”
3. Start the engine by pushing the start switch or by kicking the kick-starter, while applying the front or rear brake. **NOTICE: For maximum engine life, never accelerate hard when the engine is cold!** [ECA11041]

OPERATION AND IMPORTANT RIDING POINTS

Starting off

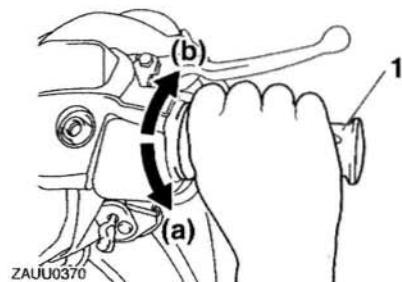
TIP

Before starting off, allow the engine to warm up.

1. While pulling the rear brake lever with your left hand and holding the grab bar with your right hand, push the scooter off the centerstand.
2. Sit astride the seat, and then adjust the rear view mirrors.
3. Switch the turn signals on.
4. Check for oncoming traffic, and then slowly turn the throttle grip (on the right) in order to take off.
5. Switch the turn signals off.

EAU16761

Acceleration and deceleration



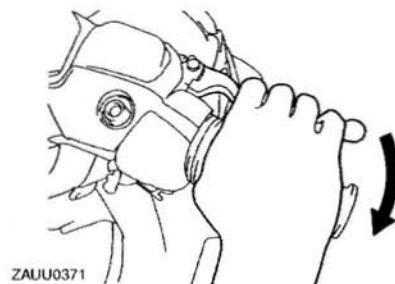
1. Throttle grip

The speed can be adjusted by opening and closing the throttle. To increase the speed, turn the throttle grip in direction (a). To reduce the speed, turn the throttle grip in direction (b).

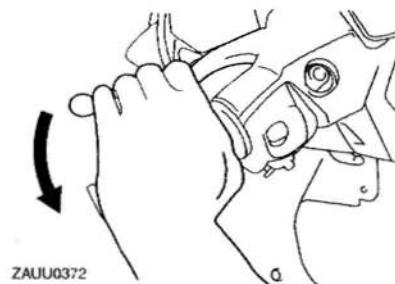
EAU16780

Braking

Front



Rear



EAU16793

OPERATION AND IMPORTANT RIDING POINTS

EWA10300

⚠ WARNING

- Avoid braking hard or suddenly (especially when leaning over to one side), otherwise the scooter may skid or overturn.
- Railroad crossings, streetcar rails, iron plates on road construction sites, and manhole covers become extremely slippery when wet. Therefore, slow down when approaching such areas and cross them with caution.
- Keep in mind that braking on a wet road is much more difficult.
- Ride slowly down a hill, as braking downhill can be very difficult.

1. Close the throttle completely.
2. Apply both front and rear brakes simultaneously while gradually increasing the pressure.

EAU16820

EAU16830

Tips for reducing fuel consumption

Fuel consumption depends largely on your riding style. Consider the following tips to reduce fuel consumption:

- Avoid high engine speeds during acceleration.
- Avoid high engine speeds with no load on the engine.
- Turn the engine off instead of letting it idle for an extended length of time (e.g., in traffic jams, at traffic lights or at railroad crossings).

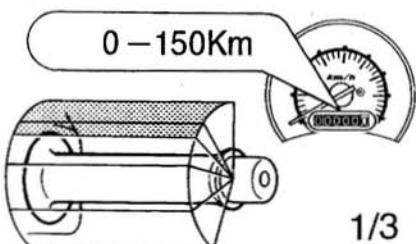
Engine break-in

There is never a more important period in the life of your engine than the period between 0 and 1000 km (600 mi). For this reason, you should read the following material carefully.

Since the engine is brand new, do not put an excessive load on it for the first 1000 km (600 mi). The various parts in the engine wear and polish themselves to the correct operating clearances. During this period, prolonged full-throttle operation or any condition that might result in engine overheating must be avoided.

OPERATION AND IMPORTANT RIDING POINTS

0–150 km (0–90 mi)



Avoid prolonged operation above 1/3 throttle.

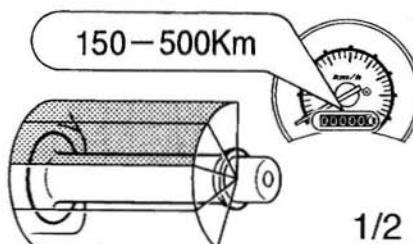
6

After every hour of operation, stop the engine, and then let it cool for five to ten minutes.

Vary the engine speed from time to time. Do not operate the engine at one set throttle position.

EAU37792

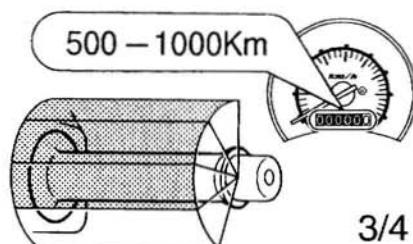
150–500 km (90–300 mi)



Avoid prolonged operation above 1/2 throttle.

Rev the engine freely through the gears, but do not use full throttle at any time.

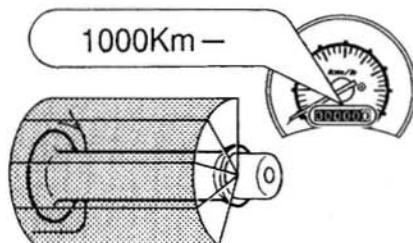
500–1000 km (300–600 mi)



6-4

Avoid prolonged operation above 3/4 throttle.

1000 km (600 mi) and beyond



Avoid prolonged full-throttle operation. Vary the engine speed occasionally.

NOTICE: After 1000 km (600 mi) of operation, the engine oil must be changed, the oil filter cartridge or element replaced, and the oil strainer cleaned. If any engine trouble should occur during the engine break-in period, immediately have a Yamaha dealer check the vehicle.

[ECA10362]

OPERATION AND IMPORTANT RIDING POINTS

EAU17213

Parking

When parking, stop the engine, and then remove the key from the main switch.

EWA10311

WARNING

- Since the engine and exhaust system can become very hot, park in a place where pedestrians or children are not likely to touch them and be burned.
- Do not park on a slope or on soft ground, otherwise the vehicle may overturn, increasing the risk of a fuel leak and fire.
- Do not park near grass or other flammable materials which might catch fire.

6

OPERATION AND IMPORTANT RIDING POINTS

EAU37601

General note

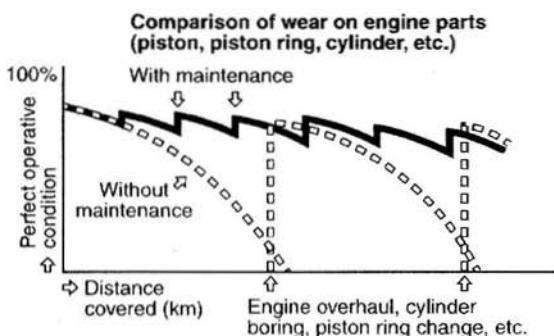
Much can be gained from the correct use and maintenance of a motorcycle.

1. THE CUSTOMERS CAN USE THE FULLEST POTENTIAL OF YAMAHA MOTORCYCLES



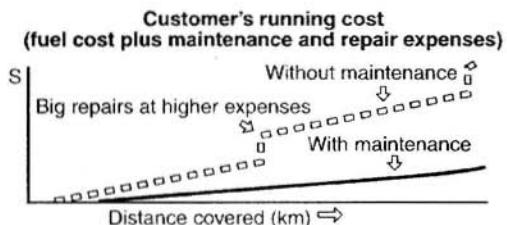
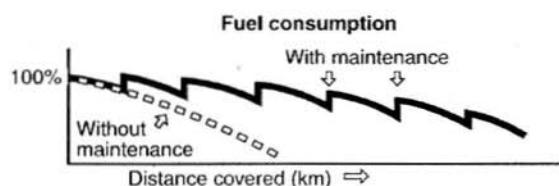
6

2. A MOTORCYCLE CAN KEEP ITS PERFORMANCE CAPABILITY FOR A LONGER TIME



OPERATION AND IMPORTANT RIDING POINTS

3. FUEL COST AND REPAIR EXPENSES CAN BE KEPT TO A MINIMUM



4. A MOTORCYCLE CAN DEMAND A HIGH PRICE WHEN IT IS TRADED IN AS A USED PRODUCT



PERIODIC MAINTENANCE AND ADJUSTMENT

EAU17241

Periodic inspection, adjustment, and lubrication will keep your vehicle in the safest and most efficient condition possible. Safety is an obligation of the vehicle owner/operator. The most important points of vehicle inspection, adjustment, and lubrication are explained on the following pages.

7

The intervals given in the periodic maintenance and lubrication chart should be simply considered as a general guide under normal riding conditions. However, depending on the weather, terrain, geographical location, and individual use, the maintenance intervals may need to be shortened.

EWA10321

WARNING

Failure to properly maintain the vehicle or performing maintenance activities incorrectly may increase your risk of injury or death during service or while using the vehicle. If you are not familiar with vehicle ser-

vice, have a Yamaha dealer perform service.

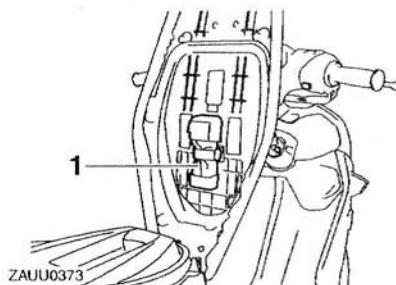
EWA15121

! WARNING
Turn off the engine when performing maintenance unless otherwise specified.

- A running engine has moving parts that can catch on body parts or clothing and electrical parts that can cause shocks or fires.
- Running the engine while servicing can lead to eye injury, burns, fire, or carbon monoxide poisoning – possibly leading to death. See page 2-2 for more information about carbon monoxide.

EAU17542

Owner's tool kit



1. Owner's tool kit

The owner's tool kit is located under the passenger seat. (See page 4-9.) The service information included in this manual and the tools provided in the owner's tool kit are intended to assist you in the performance of preventive maintenance and minor repairs. However, additional tools such as a torque wrench may be necessary to perform certain maintenance work correctly.

TIP

If you do not have the tools or experience required for a particular job, have a Yamaha dealer perform it for you.



PERIODIC MAINTENANCE AND ADJUSTMENT

EAU46880

TIP

- The annual checks must be performed every year, except if a kilometer-based maintenance is performed instead.
- From 16000 km, repeat the maintenance intervals starting from 4000 km.
- Items marked with an asterisk should be performed by a Yamaha dealer as they require special tools, data and technical skills.

EAU46930

Periodic maintenance chart for the emission control system

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (km)					ANNUAL CHECK
			1000	4000	7000	10000	13000	
1	* Fuel line	• Check fuel and vacuum hoses for cracks or damage.		✓	✓	✓	✓	✓
2	Spark plug	• Check condition. • Clean and regap.		✓		✓		
		• Replace.			✓		✓	
3	* Valves	• Check valve clearance. • Adjust.		✓	✓	✓	✓	
4	* Carburetor	• Adjust engine idling speed.		✓	✓	✓	✓	✓
5	* Muffler and exhaust pipe	• Check the screw clamp(s) for looseness.	✓	✓	✓	✓	✓	
6	* Air induction system	• Check the air cut-off valve, reed valve, and hose for damage. • Replace any damaged parts if necessary.		✓	✓	✓	✓	✓

PERIODIC MAINTENANCE AND ADJUSTMENT

EAU0091

General maintenance and lubrication chart

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (km)					ANNUAL CHECK
			1000	4000	7000	10000	13000	
1	Air filter element	• Check condition.	✓	✓	✓	✓	✓	
		• Replace.	Every 16000 km (10000 mi)					
2	V-belt case air filter element	• Clean.		✓	✓	✓	✓	
3 *	Battery	• Check battery voltage. • Change battery if necessary.		✓	✓	✓	✓	✓
4 *	Front brake	• Check operation, fluid level and vehicle for fluid leakage.	✓	✓	✓	✓	✓	
		• Replace brake pads.	Whenever worn to the limit					
5 *	Rear brake	• Check operation and adjust brake lever free play.	✓	✓	✓	✓	✓	
		• Replace brake shoes.	Whenever worn to the limit					
6 *	Brake hose	• Check for cracks or damage.	✓	✓	✓	✓	✓	
		• Replace.	Every 4 years					
7 *	Wheels	• Check runout and for damage.		✓	✓	✓	✓	
8 *	Wheels	• Check runout, spoke tightness and for damage. • Tighten spokes if necessary.		✓	✓	✓	✓	
9 *	Tires	• Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct if necessary.		✓	✓	✓	✓	
10 *	Wheel bearings	• Check bearing for looseness or damage.		✓	✓	✓	✓	
11 *	Swingarm	• Check operation and for excessive play.		✓	✓	✓	✓	
		• Lubricate with lithium-soap-based grease.	Every 13000 km (8000 mi)					

PERIODIC MAINTENANCE AND ADJUSTMENT

NO.	ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING (km)					ANNUAL CHECK
			1000	4000	7000	10000	13000	
12 *	Steering bearings	• Check bearing play and steering for roughness.	✓	✓	✓	✓	✓	
		• Lubricate with lithium-soap-based grease.	Every 13000 km (8000 mi)					
13 *	Chassis fasteners	• Make sure that all nuts, bolts and screws are properly tightened.		✓	✓	✓	✓	✓
14	Sidestand, centerstand	• Check operation. • Lubricate.		✓	✓	✓	✓	✓
15 *	Front fork	• Check operation and for oil leakage.		✓	✓	✓	✓	
16 *	Shock absorber assemblies	• Check operation and shock absorbers for oil leakage.		✓	✓	✓	✓	
17	Engine oil	• Change. • Check oil level and vehicle for oil leakage.	✓	✓	Every 3000 km (1800 mi)			
18 *	Engine oil strainer	• Clean.	✓					
19 *	Cooling system	• Check coolant level and vehicle for coolant leakage.		✓	✓	✓	✓	✓
		• Change.		Every 3 years				
20	Final transmission oil	• Check vehicle for oil leakage.	✓	✓	✓	✓	✓	
		• Change.		✓	Every 10000 km (6000 mi)			
21 *	V-belt	• Check for damage and wear.			✓	✓	✓	
		• Replace.		Every 25000 km (16000 mi)				
22 *	Front and rear brake switches	• Check operation.	✓	✓	✓	✓	✓	✓
23	Moving parts and cables	• Lubricate.		✓	✓	✓	✓	✓
24 *	Throttle grip housing and cable	• Check operation and free play. • Adjust the throttle cable free play if necessary. • Lubricate the throttle grip housing and cable.		✓	✓	✓	✓	✓
25 *	Lights, signals and switches	• Check operation. • Adjust headlight beam.	✓	✓	✓	✓	✓	✓

PERIODIC MAINTENANCE AND ADJUSTMENT

EAU18660

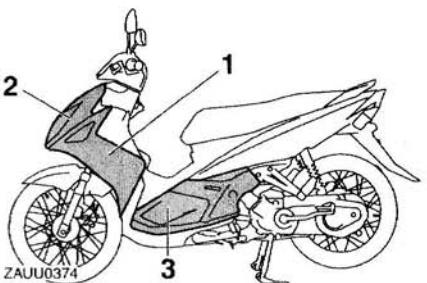
TIP

- The air filter needs more frequent service if you are riding in unusually wet or dusty areas.
- Hydraulic brake service
 - Regularly check and, if necessary, correct the brake fluid level.
 - Every two years replace the internal components of the brake master cylinder and caliper, and change the brake fluid.
 - Replace the brake hoses every four years and if cracked or damaged.

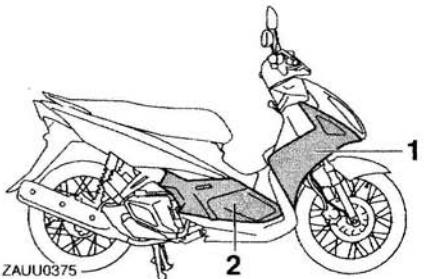
PERIODIC MAINTENANCE AND ADJUSTMENT

Removing and installing cowlings and panels

EAU18712



- 1. Cowling A
- 2. Cowling C
- 3. Panel A



- 1. Cowling B
- 2. Panel B

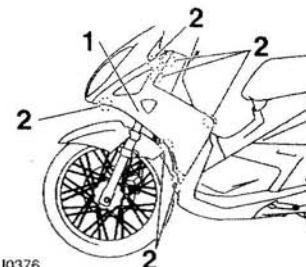
The cowlings and panels shown need to be removed to perform some of the maintenance jobs described in this chapter. Refer to this section each time a cowling or panel needs to be removed and installed.

Cowlings A and B

EAU18980

To remove one of the cowlings

Remove the cowling screws, and then pull the cowling off as shown.



- 1. Cowling A
- 2. Screw (x7)

To install the cowling

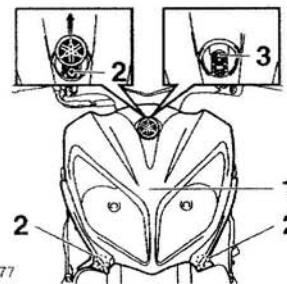
Place the cowling in the original position, and then install the screws.

EAU37730

Cowling C

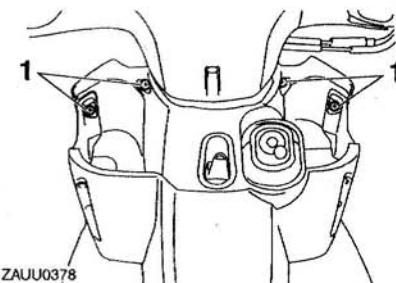
To remove the cowling

1. Remove cowlings A and B. (See page 7-6.)
2. Remove the bolts and screws shown, and then take the cowling off.



- 1. Cowling C
- 2. Screw (x3)
- 3. Bolt (x1)

PERIODIC MAINTENANCE AND ADJUSTMENT



1. Screw (x4)

To install the cowling

1. Place the cowling in the original position, and then install the bolts and screws.
2. Install cowlings A and B.

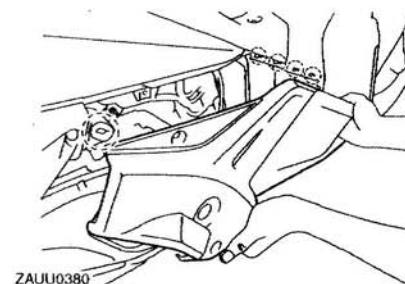
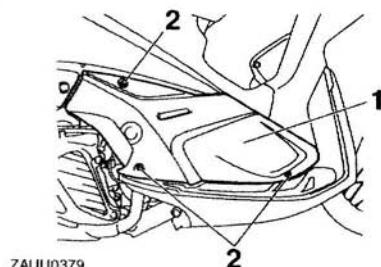
7

Panels A and B

EAU19292

To remove one of the panels

Remove the screw, and then pull the panel off as shown.



To install the panel

Place the panel in the original position, and then install the screw.

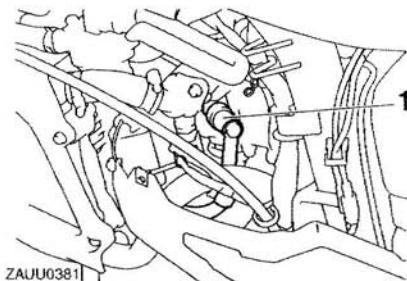
PERIODIC MAINTENANCE AND ADJUSTMENT

Checking the spark plug

The spark plug is an important engine component, which is easy to check. Since heat and deposits will cause any spark plug to slowly erode, the spark plug should be removed and checked in accordance with the periodic maintenance and lubrication chart. In addition, the condition of the spark plug can reveal the condition of the engine.

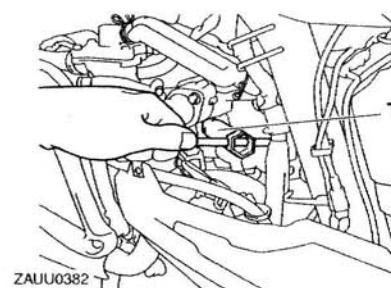
To remove the spark plug

1. Place the vehicle on the center stand.
2. Remove panel B. (See page 7-6.)
3. Remove the spark plug cap.



1. Spark plug cap

EAUT1835



1. Spark plug wrench
4. Remove the spark plug as shown, with the spark plug wrench included in the owner's tool kit.

To check the spark plug

1. Check that the porcelain insulator around the center electrode of the spark plug is a medium-to-light tan (the ideal color when the vehicle is ridden normally).

TIP

If the spark plug shows a distinctly different color, the engine could be operating improperly. Do not attempt to diagnose such problems yourself. In-

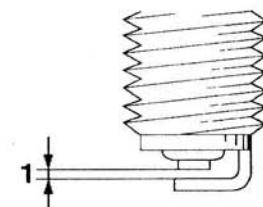
stead, have a Yamaha dealer check the vehicle.

2. Check the spark plug for electrical erosion and excessive carbon or other deposits, and replace if necessary.

Specified spark plug:
NGK/CR7E

To install the spark plug

1. Measure the spark plug gap with a wire thickness gauge and, if necessary, adjust the gap to specification.



1. Spark plug gap

PERIODIC MAINTENANCE AND ADJUSTMENT

Spark plug gap:

0.7–0.8 mm (0.027–0.031 in)

2. Clean the surface of the spark plug gasket and its mating surface, and then wipe off any grime from the spark plug threads.
3. Install the spark plug with the spark plug wrench, and then tighten it to the specified torque.

Tightening torque:

Spark plug:

12.5 Nm (1.25 m·kgf, 9.0 ft·lbf)

7

TIP

If a torque wrench is not available when installing a spark plug, a good estimate of the correct torque is 1/4–1/2 turn past finger tight. However, the spark plug should be tightened to the specified torque as soon as possible.

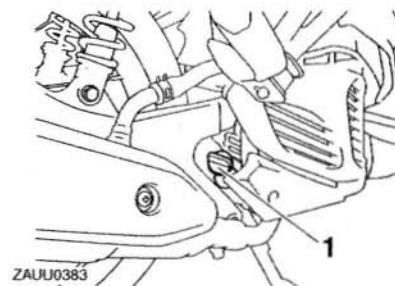
4. Install the spark plug cap.
5. Install the panel.

EAUJ0341 Engine oil and oil strainer

The engine oil level should be checked before each ride. In addition, the oil must be changed and the oil strainer cleaned at the intervals specified in the periodic maintenance and lubrication chart.

To check the engine oil level

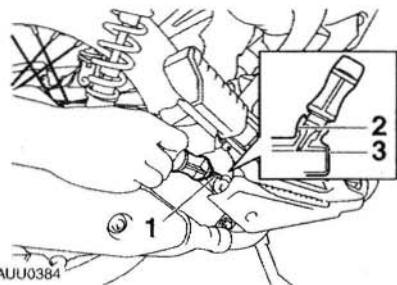
1. Place the vehicle on the center stand. A slight tilt to the side can result in a false reading.
2. Start the engine, warm it up for several minutes, and then turn it off.



1. Oil filler cap

EAUJ0341

3. Wait a few minutes until the oil settles, remove the oil filler cap, wipe the dipstick clean, insert it back into the oil filler hole (without screwing it in), and then remove it again to check the oil level.



ZAUU0384

1. Dipstick
2. Maximum level mark
3. Minimum level mark

TIP

The engine oil should be between the minimum and maximum level marks.

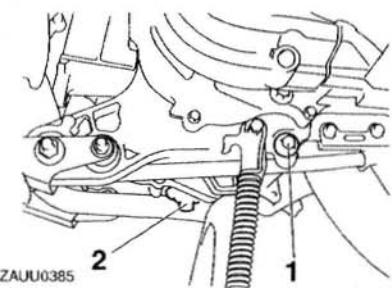
4. If the engine oil is at or below the minimum level mark, add sufficient oil of the recommended type to raise it to the correct level.

PERIODIC MAINTENANCE AND ADJUSTMENT

5. Insert the dipstick into the oil filler hole, and then tighten the oil filler cap.

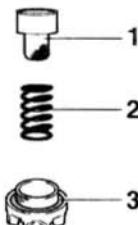
To change the engine oil and clean the oil strainer

1. Start the engine, warm it up for several minutes, and then turn it off.
2. Place an oil pan under the engine to collect the used oil.



1. Engine oil drain bolt A
2. Engine oil drain bolt B
3. Remove the engine oil filler cap and drain bolt A to drain the oil from the crankcase. **NOTICE:** When removing the engine oil

drain bolt, the O-ring, compression spring, and oil strainer will fall out. Take care not to lose these parts. [ECA11001]



1. Strainer
2. Compression spring
3. O-ring

TIP
When only changing the engine oil, remove drain bolt A. When changing the engine oil and cleaning the engine oil strainer, remove drain bolt B also.

4. Clean the engine oil strainer with solvent, and then check it for damage and replace it if necessary.
5. Check the O-ring for damage and replace it if necessary.

6. Install the engine oil strainer, compression spring, O-ring and engine oil drain bolt, and then tighten the drain bolt to the specified torque.

TIP

Make sure that the O-ring is properly seated.

Tightening torque:

Engine oil drain bolt A:
20 Nm (2.0 m·kgf, 15 ft·lbf)
Engine oil drain bolt B:
20 Nm (2.0 m·kgf, 15 ft·lbf)

7. Refill with the specified amount of the recommended engine oil, and then install and tighten the oil filler cap.

7

Recommended engine oil:

See page 9-1.
Oil quantity:
0.80 L (0.85 US qt) (0.70 Imp.qt)

PERIODIC MAINTENANCE AND ADJUSTMENT

TIP

Be sure to wipe off spilled oil on any parts after the engine and exhaust system have cooled down.

ECA11620

NOTICE

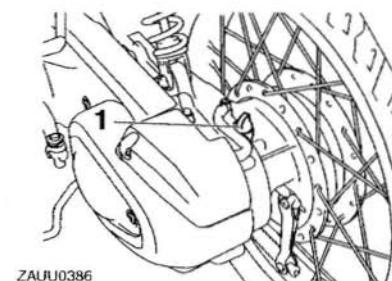
- In order to prevent clutch slippage (since the engine oil also lubricates the clutch), do not mix any chemical additives. Do not use oils with a diesel specification of "CD" or oils of a higher quality than specified. In addition, do not use oils labeled "ENERGY CONSERVING II" or higher.
- Make sure that no foreign material enters the crankcase.

7

8. Start the engine, and then let it idle for several minutes while checking it for oil leakage. If oil is leaking, immediately turn the engine off and check for the cause.
9. Turn the engine off, and then check the oil level and correct it if necessary.

Final transmission oil

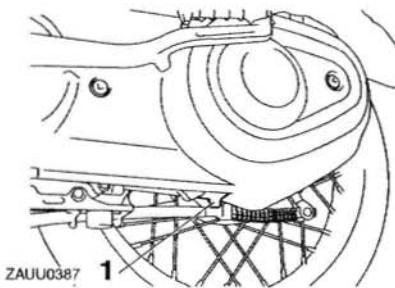
EAU20064



1. Final transmission oil filler cap

The final transmission case must be checked for oil leakage before each ride. If any leakage is found, have a Yamaha dealer check and repair the scooter. In addition, the final transmission oil must be changed as follows at the intervals specified in the periodic maintenance and lubrication chart.

1. Start the engine, warm up the final transmission oil by riding the scooter for several minutes, and then stop the engine.
2. Place the scooter on the center-stand.



1. Final transmission oil drain bolt

3. Place an oil pan under the final transmission case to collect the used oil.
4. Remove the final transmission oil filler cap and final transmission drain bolt to drain the oil from the final transmission case.
5. Install the final transmission oil drain bolt, and then tighten it to the specified torque.

Tightening torque:

Final transmission oil drain bolt:
22 Nm (2.2 m-kgf, 16.2 ft-lbf)

PERIODIC MAINTENANCE AND ADJUSTMENT

6. Refill with the specified amount of the recommended final transmission oil, and then install and tighten the oil filler cap. **WARNING!** **Make sure that no foreign material enters the final transmission case. Make sure that no oil gets on the tire or wheel.** [EWA11311]

Recommended final transmission oil:

See page 9-1.

Oil quantity:

0.12 L (0.13 US qt, 0.11 Imp.qt)

7. Check the final transmission case for oil leakage. If oil is leaking, check for the cause.

Coolant

EAU20070

The coolant level should be checked before each ride. In addition, the coolant must be changed at the intervals specified in the periodic maintenance and lubrication chart.

To check the coolant level

EAUU0461

1. Place the vehicle on the center-stand.

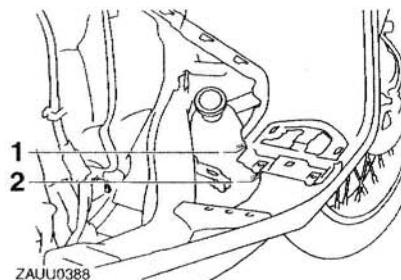
TIP

- The coolant level must be checked on a cold engine since the level varies with engine temperature.
- Make sure that the vehicle is positioned straight up when checking the coolant level. A slight tilt to the side can result in a false reading.

2. Check the coolant level in the coolant reservoir.

TIP

The coolant should be between the minimum and maximum level marks.



1. Maximum level mark

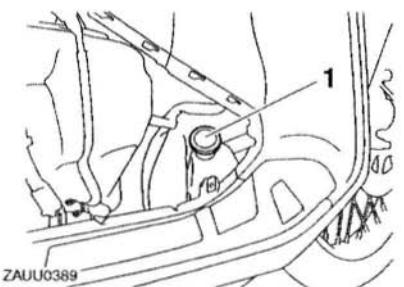
2. Minimum level mark

3. If the coolant is at or below the minimum level mark, remove panel B (See page 7-6.), remove the reservoir cap, add coolant to the maximum level mark, and then install the reservoir cap and the panel. **WARNING! Never attempt to remove the radiator cap when the engine is hot.** [EWA10381] **NOTICE:** If coolant is not available, use distilled water or soft tap water instead. Do not use hard water or salt water since it is harmful to the engine. If water has been used instead of cool-

PERIODIC MAINTENANCE AND ADJUSTMENT

ant, replace it with coolant as soon as possible, otherwise the cooling system will not be protected against frost and corrosion. If water has been added to the coolant, have a Yamaha dealer check the anti-freeze content of the coolant as soon as possible, otherwise the effectiveness of the coolant will be reduced. [ECA10472]

7



1. Coolant reservoir cap

Coolant reservoir capacity (up to the maximum level mark):

0.25 L (0.26 US qt) (0.22 Imp.qt)

TIP

- The radiator fan switches on when the engine is started and switches off when the engine is stopped.
- If the engine overheats, see page 7-35 for further instructions.

EAU33031

Changing the coolant

The coolant must be changed at the intervals specified in the periodic maintenance and lubrication chart. Have a Yamaha dealer change the coolant. **WARNING! Never attempt to remove the radiator cap when the engine is hot.** [EWA10381]

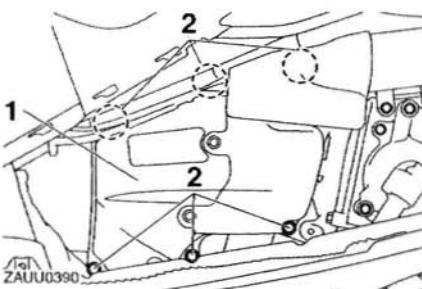
EAU00411

Air filter and V-belt case air filter elements

The air filter element should be checked and replace if necessary and the V-belt case air filter element should be cleaned at the intervals specified in the periodic maintenance and lubrication chart. Service the air filter elements more frequently if you are riding in unusually wet or dusty areas.

Checking and replacing the air filter element

1. Place the vehicle on the center-stand.

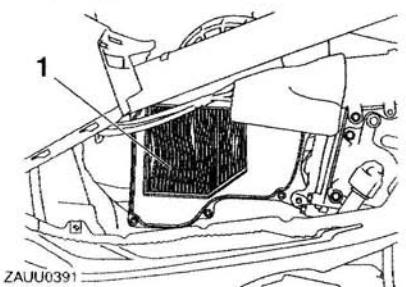


1. Air filter case cover

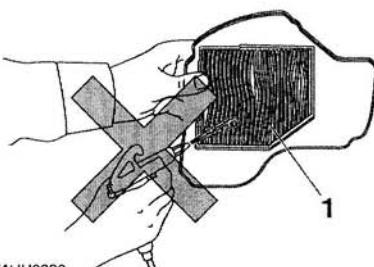
2. Screw (x6)

PERIODIC MAINTENANCE AND ADJUSTMENT

2. Remove panel A. (See page 7-6 for panel removal and installation procedures.)
3. Remove the air filter case cover by removing the screws.
4. Remove the air filter element by pulling it out.



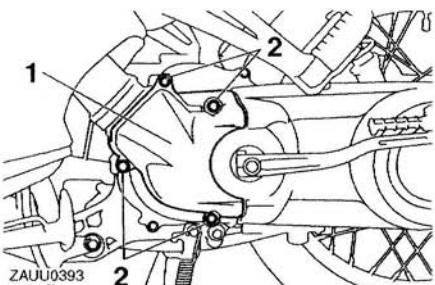
1. Air filter element (Wet type)
5. Check the air filter element for excessive dirt or damage and replace it if necessary.



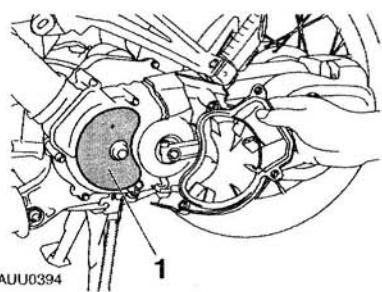
1. Air filter element (Wet type)
6. Place the air filter element in its original position.
7. Install the air filter case cover by installing the screws.
8. Install the panel.

Cleaning the V-belt case air filter element

1. Place the vehicle on the center-stand.
2. Remove the V-belt air filter case cover by removing the bolts.

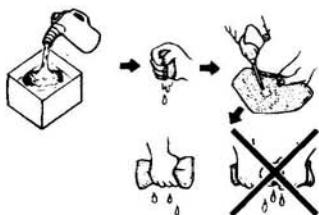


1. V-belt case air filter cover
2. Bolt (x4)
3. Remove the element by pulling it out.



1. V-belt air filter element

PERIODIC MAINTENANCE AND ADJUSTMENT



4. Clean the element with solvent, and then squeeze the remaining solvent out.

5. Check the element for damage and replace it if necessary.

6. Apply oil of the recommended type to the entire surface of the element, and then squeeze the excess oil out. **WARNING! Use only a dedicated parts cleaning solvent. To avoid the risk of fire or explosion, do not use gasoline or solvents with a low flash point.** [EWA10431] **NOTICE: To avoid damaging the air filter element, handle it gently and carefully, and do not twist it.** [ECA10521]

7

TIP

The element should be wet but not dripping.

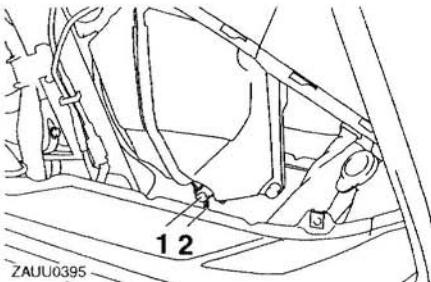
Recommended oil:

Yamaha foam air filter oil or other quality foam air filter oil

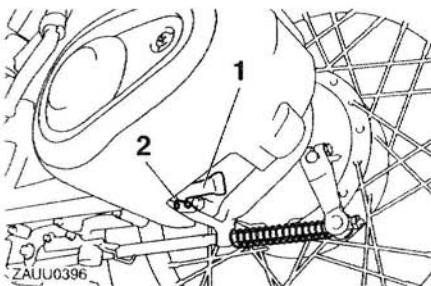
7. Install the element into the filter case.
8. Place the air filter case cover in its original position, and then install the bolts. **NOTICE: Make sure that each filter element is properly seated in its case. The engine should never be operated without the filter elements installed, otherwise the piston(s) and/or cylinder(s) may become excessively worn.** [ECA10531]

Cleaning the air filter check hose and caps

1. Check each cap at the bottom left and right side of the air filter case and the hose at the bottom of the V-belt case for accumulated dirt or water.



1. Air filter check hose
2. Clamp



1. Check hose
2. Clamp

2. If dirt or water is visible, remove the cap or hose, clean it, and then install it.

PERIODIC MAINTENANCE AND ADJUSTMENT

EAU21280

Adjusting the carburetor

The carburetor is an important part of the engine and requires very sophisticated adjustment. Therefore, most carburetor adjustments should be left to a Yamaha dealer, who has the necessary professional knowledge and experience. The adjustment described in the following section, however, may be serviced by the owner as part of routine maintenance.

ECA10550

NOTICE

The carburetor has been set and extensively tested at the Yamaha factory. Changing these settings without sufficient technical knowledge may result in poor performance or damage to the engine.

EAUU0320

Adjusting the engine idling speed

The engine idling speed must be checked and, if necessary, adjusted as follows at the intervals specified in the periodic maintenance and lubrication chart.

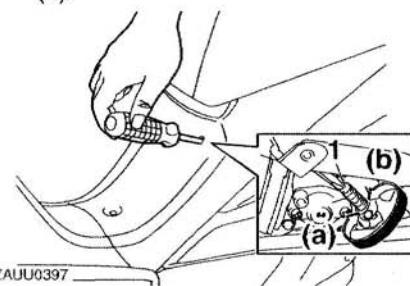
The engine should be warm before making this adjustment.

TIP

- The engine is warm when it quickly responds to the throttle.
- A diagnostic tachometer is needed to make this adjustment.

1. Open the seat. (See page 4-9 for seat opening and closing procedures.)
2. Remove panel B. (See page 7-6 for panel removal and installation procedures.)
3. Attach the tachometer to the spark plug lead.
4. Check the engine idling speed and, if necessary, adjust it to specification as follows.

5. Remove the rubber cap and insert a Phillips screwdriver into the throttle stop screw hole.
6. To increase the engine idling speed, turn the screw in direction (a). To decrease the engine idling speed, turn the screw in direction (b).



ZAUU0397

1. Throttle stop screw

7

Engine idling speed:

1400–1600 r/min

TIP

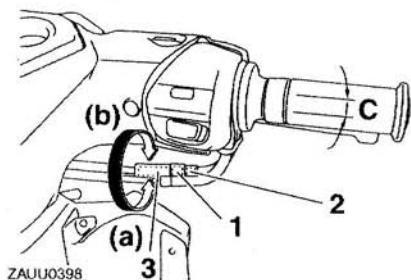
If the specified idling speed cannot be obtained as described above, have a Yamaha dealer make the adjustment.

7. Install the panel and close the seat.

PERIODIC MAINTENANCE AND ADJUSTMENT

Adjusting the throttle cable free play

EAU21370



ZAUU0398

1. Throttle cable free play adjusting nut
2. Locknut
3. Cable cover

c. Throttle cable free play

7

The throttle cable free play should measure 3.0–7.0 mm (0.12–0.28 in) at the throttle grip. Periodically check the throttle cable free play and, if necessary, adjust it as follows.

TIP

The engine idling speed must be correctly adjusted before checking and adjusting the throttle cable free play.

1. Loosen the locknut.
2. To increase the throttle cable free play, turn the adjusting nut in direction (a). To decrease the throttle cable free play, turn the adjusting nut in direction (b).
3. Tighten the locknut.

EAU21401

Valve clearance

The valve clearance changes with use, resulting in improper air-fuel mixture and/or engine noise. To prevent this from occurring, the valve clearance must be adjusted by a Yamaha dealer at the intervals specified in the periodic maintenance and lubrication chart.

PERIODIC MAINTENANCE AND ADJUSTMENT

Tires

EAU21572

To maximize the performance, durability, and safe operation of your motorcycle, note the following points regarding the specified tires.

Tire air pressure

The tire air pressure should be checked and, if necessary, adjusted before each ride.

EWA10501

WARNING

Operation of this vehicle with improper tire pressure may cause severe injury or death from loss of control.

- The tire air pressure must be checked and adjusted on cold tires (i.e., when the temperature of the tires equals the ambient temperature).
- The tire air pressure must be adjusted in accordance with the riding speed and with the total weight of rider, passenger, cargo, and accessories approved for this model.

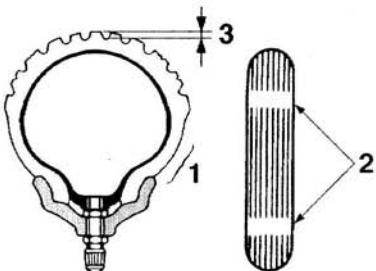
weight of rider, passenger, cargo, and accessories approved for this model.

EWA10511

! WARNING

Never overload your vehicle. Operation of an overloaded vehicle could cause an accident.

Tire inspection



7

1. Tire sidewall
2. Tire wear indicator
3. Tire tread depth

The tires must be checked before each ride. If the tire shows crosswise lines (minimum tread depth), if the tire has a nail or glass fragments in it, or if the sidewall is cracked, have a Yamaha dealer replace the tire immediately.

PERIODIC MAINTENANCE AND ADJUSTMENT

Minimum tire tread depth (front and rear):

1.0 mm (0.04 in)

TIP

The tire tread depth limits may differ from country to country. Always comply with the local regulations.

Tire information

This motorcycle is equipped with tube tires.

EWA10461



WARNING
The front and rear tires should be of the same make and design, otherwise the handling characteristics of the vehicle may be different, which could lead to an accident.

7

After extensive tests, only the tires listed below have been approved for this model by Yamaha Motor Co., Ltd.

Front tire:

Size:

70/90-14M/C 36P

Manufacturer/model:

IRC/NF59E, (TUBELESS)
DUNLOP/D110M, D110L

Rear tire:

Size:

80/90-16M/C 48P

Manufacturer/model:

IRC/NR76E, (TUBELESS)
DUNLOP/D110M, D110L

- It is not recommended to patch a punctured tube. If unavoidable, however, patch the tube very carefully and replace it as soon as possible with a high-quality product.

EWA10560



WARNING

- It is dangerous to ride with a worn-out tire. When a tire tread begins to show crosswise lines, have a Yamaha dealer replace the tire immediately.
- The replacement of all wheel- and brake-related parts, including the tires, should be left to a Yamaha dealer, who has the necessary professional knowledge and experience.

PERIODIC MAINTENANCE AND ADJUSTMENT

Wheels

To maximize the performance, durability, and safe operation of your motorcycle, note the following points regarding the specified wheels.

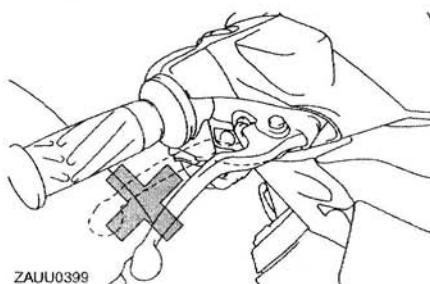
- The wheel rims should be checked for cracks, bends or warpage, and the spokes for looseness (for spoke wheel model) or damage before each ride. If any damage is found, have a Yamaha dealer replace the wheel. Do not attempt even the smallest repair to the wheel. A deformed or cracked wheel must be replaced.
- The wheel should be balanced whenever either the tire or wheel has been changed or replaced. An unbalanced wheel can result in poor performance, adverse handling characteristics, and a shortened tire life.

EAU0290

- Ride at moderate speeds after changing a tire since the tire surface must first be "broken in" for it to develop its optimal characteristics.

EAU3791

Checking the front brake lever free play



There should be no free play at the brake lever end. If there is free play, have a Yamaha dealer inspect the brake system.

EWA14211

7

WARNING

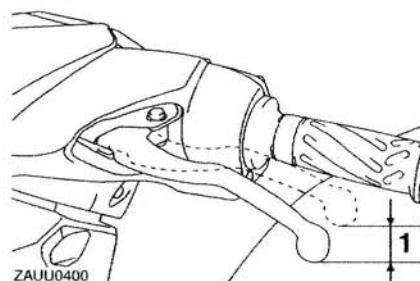
A soft or spongy feeling in the brake lever can indicate the presence of air in the hydraulic system. If there is air in the hydraulic system, have a Yamaha dealer bleed the system before operating the vehicle. Air in the hydraulic system will diminish the braking performance, which may re-

PERIODIC MAINTENANCE AND ADJUSTMENT

sult in loss of control and an accident.

EAU22170

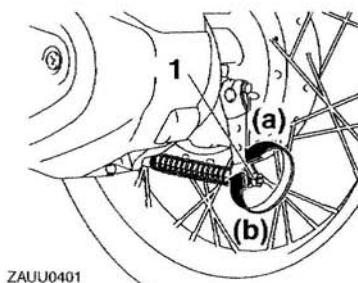
Adjusting the rear brake lever free play



1. Rear brake lever free play

The brake lever free play should measure 10.0–20.0 mm (0.394–0.787 in) as shown. Periodically check the brake lever free play and, if necessary, adjust it as follows.

To increase the brake lever free play, turn the adjusting nut at the brake shoe plate in direction (a). To decrease the brake lever free play, turn the adjusting nut in direction (b).



1. Rear brake lever free play adjusting nut

WARNING

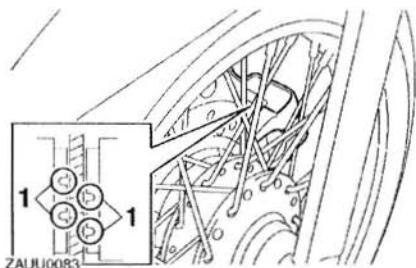
If proper adjustment cannot be maintained as described, have a Yamaha dealer make this adjustment.

PERIODIC MAINTENANCE AND ADJUSTMENT

Checking the front brake pads and rear brake shoes

The front brake pads and the rear brake shoes must be checked for wear at the intervals specified in the periodic maintenance and lubrication chart.

Front brake pads

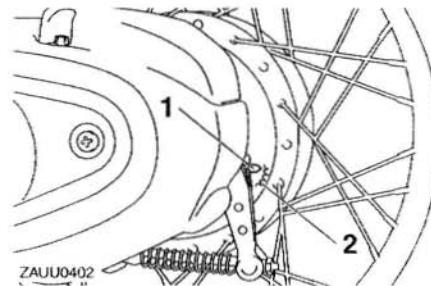


1. Brake pad wear indicator groove (x2)

Each front brake pad is provided with wear indicator grooves, which allow you to check the brake pad wear without having to disassemble the brake. To check the brake pad wear, check the wear indicator grooves. If a brake pad has worn to the point that the wear indicator grooves have almost dis-

peared, have a Yamaha dealer replace the brake pads as a set.

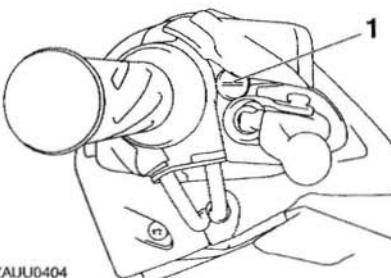
Rear brake shoes



1. Brake shoe wear indicator
2. Brake shoe wear limit line

The rear brake is provided with a wear indicator, which allows you to check the brake shoe wear without having to disassemble the brake. To check the brake shoe wear, check the position of the wear indicator while applying the brake. If a brake shoe has worn to the point that the wear indicator reaches the wear limit line, have a Yamaha dealer replace the brake shoes as a set.

Checking the brake fluid level



1. Minimum level mark

Insufficient brake fluid may allow air to enter the brake system, possibly causing it to become ineffective.

Before riding, check that the brake fluid is above the minimum level mark and replenish if necessary. A low brake fluid level may indicate worn brake pads and/or brake system leakage. If the brake fluid level is low, be sure to check the brake pads for wear and the brake system for leakage.

Observe these precautions:

PERIODIC MAINTENANCE AND ADJUSTMENT

- When checking the fluid level, make sure that the top of the master cylinder is level by turning the handlebars.
- Use only the recommended quality brake fluid, otherwise the rubber seals may deteriorate, causing leakage and poor braking performance.
- As the brake pads wear, it is normal for the brake fluid level to gradually go down. However, if the brake fluid level goes down suddenly, have a Yamaha dealer check the cause.

EAU22721

Changing the brake fluid

Have a Yamaha dealer change the brake fluid at the intervals specified in the TIP after the periodic maintenance and lubrication chart. In addition, have the oil seals of the brake master cylinder and caliper as well as the brake hose replaced at the intervals listed below or whenever they are damaged or leaking.

- Oil seals: Replace every two years.
- Brake hose: Replace every four years.

Recommended brake fluid:

DOT 4

7

- Refill with the same type of brake fluid. Mixing fluids may result in a harmful chemical reaction and lead to poor braking performance.
- Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock.
- Brake fluid may deteriorate painted surfaces or plastic parts. Always clean up spilled fluid immediately.

PERIODIC MAINTENANCE AND ADJUSTMENT

Checking the V-belt

The V-belt must be checked and replaced by a Yamaha dealer at the intervals specified in the periodic maintenance and lubrication chart.

EAUU0310

Checking and lubricating the cables

The operation of all control cables and the condition of the cables should be checked before each ride, and the cables and cable ends should be lubricated if necessary. If a cable is damaged or does not move smoothly, have a Yamaha dealer check or replace it.

WARNING! Damage to the outer sheath may interfere with proper cable operation and will cause the inner cable to rust. Replace a damaged cable as soon as possible to prevent unsafe conditions. [EWA10721]

EAU23101

Checking and lubricating the throttle grip and cable

The operation of the throttle grip should be checked before each ride. In addition, the cable should be lubricated at the intervals specified in the periodic maintenance chart.

EAU23111

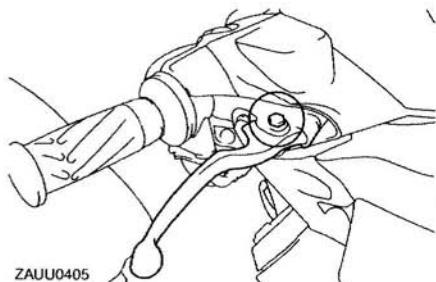
Recommended lubricant:
Engine oil

PERIODIC MAINTENANCE AND ADJUSTMENT

Lubricating the front and rear brake levers

EAU43631

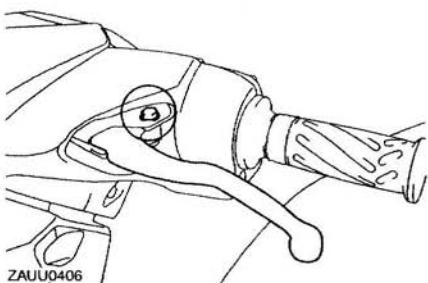
Recommended lubricant:
Lithium-soap-based grease



ZAUU0405

The pivoting points of the front and rear brake levers must be lubricated at the intervals specified in the periodic maintenance and lubrication chart.

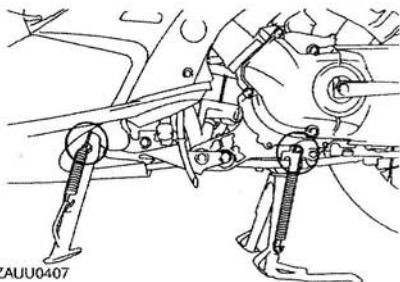
7



ZAUU0406

Checking and lubricating the centerstand and sidestand

EAU23213



ZAUU0407

The operation of the centerstand and sidestand should be checked before each ride, and the pivots and metal-to-metal contact surfaces should be lubricated if necessary.

EWA10741

WARNING

If the centerstand or sidestand does not move up and down smoothly, have a Yamaha dealer check or repair it. Otherwise, the centerstand or sidestand could contact the ground and distract the operator, resulting in a possible loss of control.

PERIODIC MAINTENANCE AND ADJUSTMENT

Recommended lubricant:
Lithium-soap-based grease

EAU23272

Checking the front fork

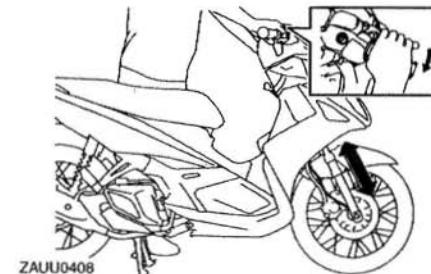
The condition and operation of the front fork must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

To check the condition

Check the inner tubes for scratches, damage and excessive oil leakage.

To check the operation

1. Place the vehicle on a level surface and hold it in an upright position. **WARNING! To avoid injury, securely support the vehicle so there is no danger of it falling over.** [EWA10751]
2. While applying the front brake, push down hard on the handlebars several times to check if the front fork compresses and rebounds smoothly.



ZAUU0408

ECA10590

NOTICE

If any damage is found or the front fork does not operate smoothly, have a Yamaha dealer check or repair it.

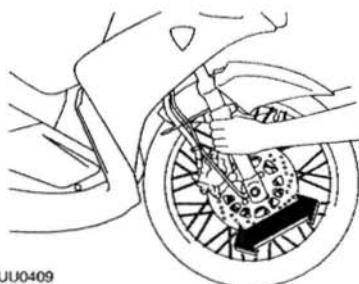
PERIODIC MAINTENANCE AND ADJUSTMENT

Checking the steering

Worn or loose steering bearings may cause danger. Therefore, the operation of the steering must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

1. Place a stand under the engine to raise the front wheel off the ground. (See page 7-25 for more information.) **WARNING!** To avoid injury, securely support the vehicle so there is no danger of it falling over. [EWA10751]

EAU23263



ZAUU0409

2. Hold the lower ends of the front fork legs and try to move them forward and backward. If any free play can be felt, have a Yamaha dealer check or repair the steering.

Checking the wheel bearings

The front and rear wheel bearings must be checked at the intervals specified in the periodic maintenance and lubrication chart. If there is play in the wheel hub or if the wheel does not turn smoothly, have a Yamaha dealer check the wheel bearings.

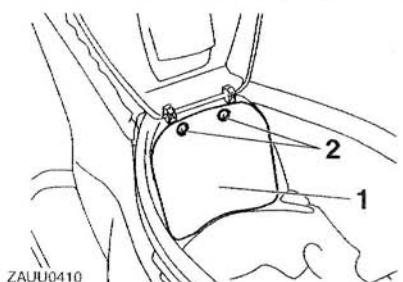
EAU23290

PERIODIC MAINTENANCE AND ADJUSTMENT

Battery

EAU23414

This model is equipped with a VRLA (Valve Regulated Lead Acid) battery. There is no need to check the electrolyte or to add distilled water. However, the battery lead connections need to be checked and, if necessary, tightened.



1. Battery cover
2. Screw (x2)

EWA10760

WARNING

- Electrolyte is poisonous and dangerous since it contains sulfuric acid, which causes severe burns. Avoid any contact with skin, eyes or clothing and al-

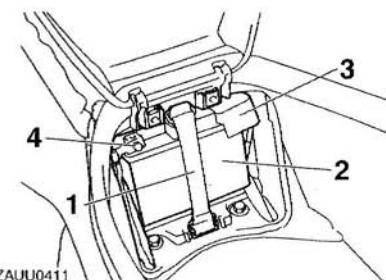
ways shield your eyes when working near batteries. In case of contact, administer the following FIRST AID.

- EXTERNAL: Flush with plenty of water.
- INTERNAL: Drink large quantities of water or milk and immediately call a physician.
- EYES: Flush with water for 15 minutes and seek prompt medical attention.
- Batteries produce explosive hydrogen gas. Therefore, keep sparks, flames, cigarettes, etc., away from the battery and provide sufficient ventilation when charging it in an enclosed space.
- **KEEP THIS AND ALL BATTERIES OUT OF THE REACH OF CHILDREN.**

To access the battery

1. Open the seat. (See page 4-9.)

2. Remove the battery cover by removing the screws.



ZAUU0411
1. Battery band
2. Battery
3. Positive battery lead
4. Negative battery lead

To charge the battery

Have a Yamaha dealer charge the battery as soon as possible if it seems to have discharged. Keep in mind that the battery tends to discharge more quickly if the vehicle is equipped with optional electrical accessories.

7

ECA16520

NOTICE

To charge a VRLA (Valve Regulated Lead Acid) battery, a special (con-

PERIODIC MAINTENANCE AND ADJUSTMENT

stant-voltage) battery charger is required. Using a conventional battery charger will damage the battery. If you do not have access to a constant-voltage battery charger, have a Yamaha dealer charge your battery.

To store the battery

1. If the vehicle will not be used for more than one month, remove the battery, fully charge it, and then place it in a cool, dry place. ***NOTICE:*** When removing the battery, be sure the key is turned to "OFF", then disconnect the negative lead before disconnecting the positive lead. [ECA16302]
2. If the battery will be stored for more than two months, check it at least once a month and fully charge it if necessary.
3. Fully charge the battery before installation.

7

4. After installation, make sure that the battery leads are properly connected to the battery terminals.

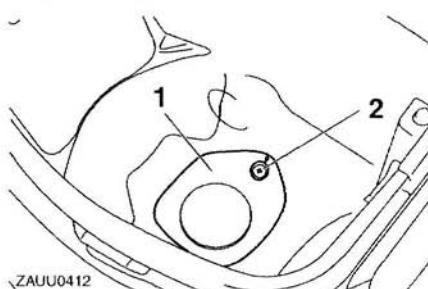
ECA16530

NOTICE

Always keep the battery charged. Storing a discharged battery can cause permanent battery damage.

EAU00421

Replacing the fuse

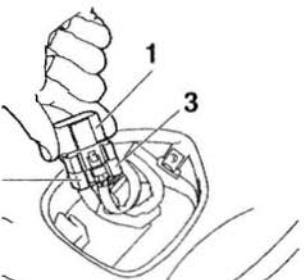


1. Fuse cover
2. Screw (x1)

The fuse holder is located in the storage compartment under the seat, behind the starter relay cover. (See page 4-9 for seat opening procedures.) If the fuse is blown, replace it as follows.

1. Turn the key to "OFF" and turn off all electrical circuits.
2. Remove the starter relay cover by removing the screw.
3. Pull the starter relay out.

PERIODIC MAINTENANCE AND ADJUSTMENT



6. Install the starter relay cover by installing the screw.
7. Turn the key to "ON" and turn on the electrical circuits to check if the devices operate.
8. If the fuse immediately blows again, have a Yamaha dealer check the electrical system.

ove the blown fuse, and then
ll a new fuse of the specified
erage. **WARNING!** Do not
a fuse of a higher amper-
rating than recommended
avoid causing extensive
age to the electrical sys-
and possibly a fire. [EWA15131]

ed fuse:

e the starter relay into the

EAU00121

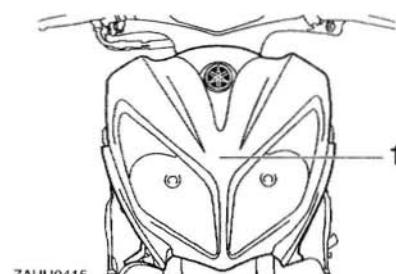
Replacing a headlight bulb

If a headlight bulb burns out, replace it as follows.

ECA10660

NOTICE

Do not touch the glass part of the headlight bulb to keep it free from oil, otherwise the transparency of the glass, the luminosity of the bulb, and the bulb life will be adversely affected. Thoroughly clean off any dirt and fingerprints on the headlight bulb using a cloth moistened with alcohol or thinner.

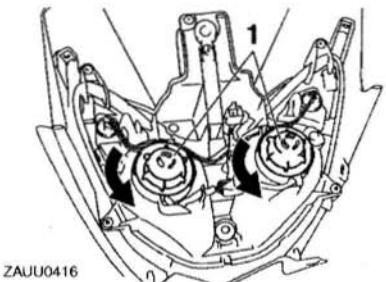


1. Cowling C

ZAUU0415

PERIODIC MAINTENANCE AND ADJUSTMENT

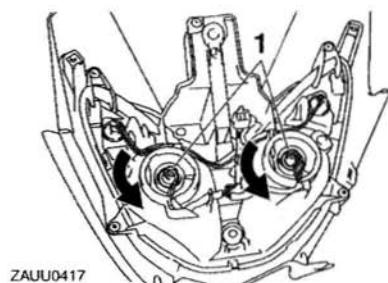
1. Place the motorcycle on the centerstand.
2. Remove cowling C. (See page 7-6 for removing procedure.)



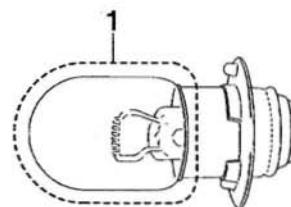
1. Headlight bulb cover (x2)

7

3. Remove the headlight bulb cover by turning it counterclockwise.
4. Remove the headlight bulb holder by pushing it inward and turning it counterclockwise, and then remove the bulb.



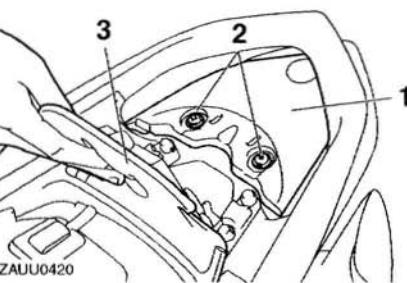
1. Headlight bulb holder
5. Place a new bulb into position, and then secure it with the bulb holder.



1. Do not touch the glass part of the bulb.
6. Install the cowling.
7. Have a Yamaha dealer adjust the headlight beam if necessary.

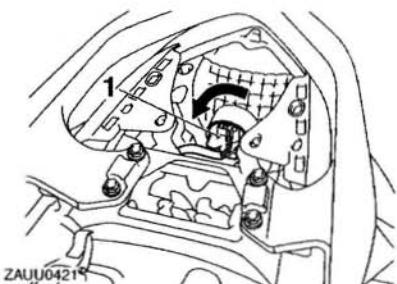
Replacing the tail/brake light bulb

EAUU0451

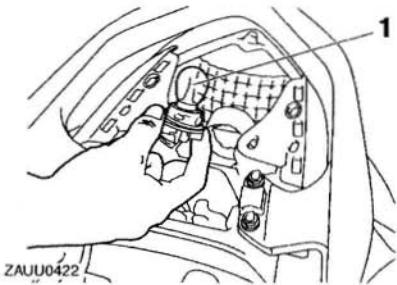


1. Rear panel
2. Screw (x2)
3. Rubber cap

PERIODIC MAINTENANCE AND ADJUSTMENT



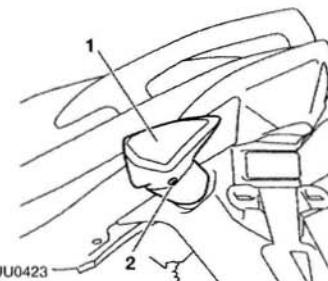
1. Tail/brake light bulb socket
3. Remove the socket (together with the bulb) by turning it counter-clockwise.
4. Remove the burnt out bulb by pushing it in and turning it counter-clockwise.



1. Tail/brake light bulb

5. Insert a new bulb into the socket, push it in, and then turn it clockwise until it stops.
6. Install the socket (together with the bulb) by turning it clockwise.
7. Install the panel and the seat.

EAU24204
Replacing a turn signal light bulb



1. Rear turn signal light lens
2. Screw

1. Remove the turn signal light lens by removing the screw.
2. Remove the burnt-out bulb by pushing it in and turning it counter-clockwise.
3. Insert a new bulb into the socket, push it in, and then turn it clockwise until it stops.
4. Install the lens by installing the screw. **NOTICE:** Do not overtighten the screw, otherwise the lens may break. [ECA11191]

PERIODIC MAINTENANCE AND ADJUSTMENT

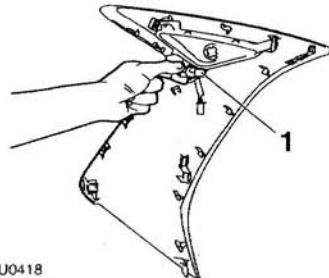
EAU00430

Replacing a front turn signal light bulb

If a front turn signal light bulb burns out, replace it as follows.

1. Remove cowling A (if replacing the left turn signal light bulb) or cowling B (if replacing the right turn signal light bulb). (See page 7-6. For removal and installation procedures.)
2. Remove the turn signal light socket (together with the bulb) by turning it counterclockwise.
3. Remove the defective bulb by pulling it out.

7



1. Front turn signal light bulb

4. Insert a new bulb into the socket.
5. Install the turn signal light socket (together with the bulb) by turning it clockwise.
6. Install the cowling.

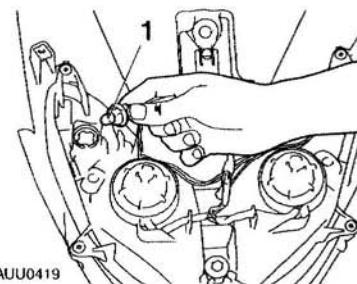
ZAUU0418

EAU00441

Replacing an auxiliary light bulb

This model is equipped with two auxiliary lights. If an auxiliary light bulb burns out, replace it as follows.

1. Remove cowling C. (See page 7-6 for removal and installation procedures.)
2. Remove the auxiliary light socket (together with the bulb) by turning it counterclockwise.



ZAUU0419

1. Auxiliary light bulb
3. Remove the burnt out bulb by pulling it out.
4. Insert a new bulb into the socket.

PERIODIC MAINTENANCE AND ADJUSTMENT

5. Install the auxiliary light socket (together with the bulb) by turning it clockwise.
6. Install the cowling.

EAU25871

Troubleshooting

Although Yamaha motorcycles receive a thorough inspection before shipment from the factory, trouble may occur during operation. Any problem in the fuel, compression, or ignition systems, for example, can cause poor starting and loss of power.

The following troubleshooting charts represent quick and easy procedures for checking these vital systems yourself. However, should your motorcycle require any repair, take it to a Yamaha dealer, whose skilled technicians have the necessary tools, experience, and know-how to service the motorcycle properly.

Use only genuine Yamaha replacement parts. Imitation parts may look like Yamaha parts, but they are often inferior, have a shorter service life and can lead to expensive repair bills.

EWA15141



WARNING
When checking the fuel system, do not smoke, and make sure there are

7

no open flames or sparks in the area, including pilot lights from water heaters or furnaces. Gasoline or gasoline vapors can ignite or explode, causing severe injury or property damage.

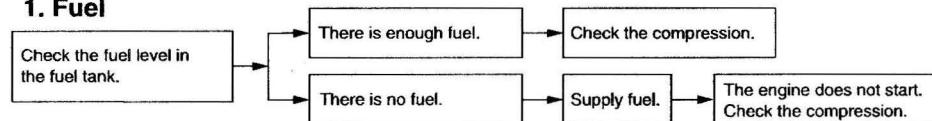
PERIODIC MAINTENANCE AND ADJUSTMENT

EAU25922

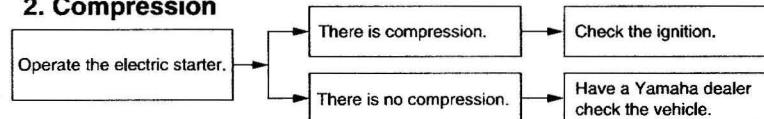
Troubleshooting charts

Starting problems or poor engine performance

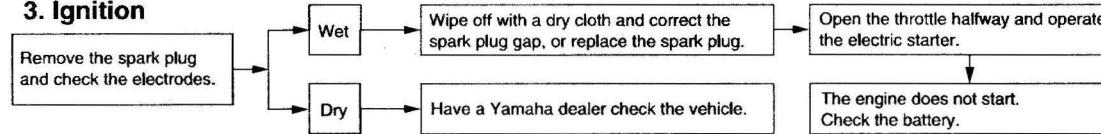
1. Fuel



2. Compression

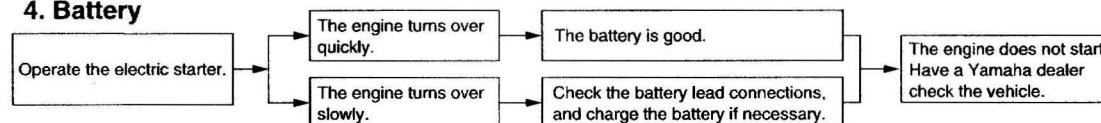


3. Ignition



7

4. Battery



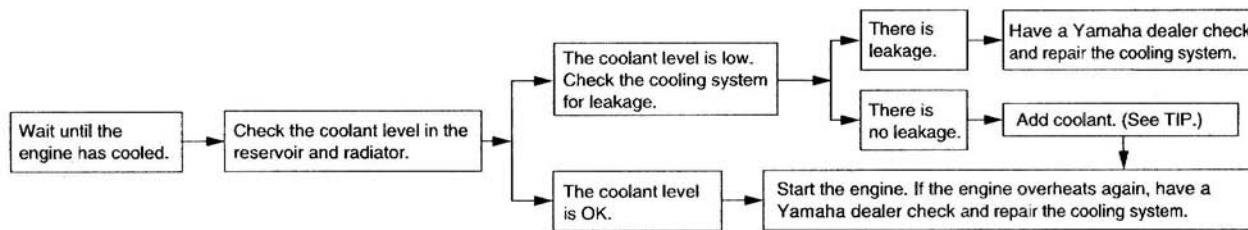
PERIODIC MAINTENANCE AND ADJUSTMENT

Engine overheating

EWA10400

WARNING

- Do not remove the radiator cap when the engine and radiator are hot. Scalding hot fluid and steam may be blown out under pressure, which could cause serious injury. Be sure to wait until the engine has cooled.
- After removing the radiator cap retaining bolt, place a thick rag, like a towel, over the radiator cap, and then slowly rotate the cap counterclockwise to the detent to allow any residual pressure to escape. When the hissing sound has stopped, press down on the cap while turning it counterclockwise, and then remove the cap.



7

TIP

If coolant is not available, tap water can be temporarily used instead, provided that it is changed to the recommended coolant as soon as possible.

MOTORCYCLE CARE AND STORAGE

Care

While the open design of a motorcycle reveals the attractiveness of the technology, it also makes it more vulnerable. Rust and corrosion can develop even if high-quality components are used. A rusty exhaust pipe may go unnoticed on a car, however, it detracts from the overall appearance of a motorcycle. Frequent and proper care does not only comply with the terms of the warranty, but it will also keep your motorcycle looking good, extend its life and optimize its performance.

Before cleaning

8

1. Cover the muffler outlet with a plastic bag after the engine has cooled down.
2. Make sure that all caps and covers as well as all electrical couplers and connectors, including the spark plug cap, are tightly installed.

EAU00403

3. Remove extremely stubborn dirt, like oil burnt onto the crankcase, with a degreasing agent and a brush, but never apply such products onto seals, gaskets and wheel axles. Always rinse the dirt and degreaser off with water.

Cleaning

ECA10782

NOTICE

- Avoid using strong acidic wheel cleaners, especially on spoked wheels. If such products are used on hard-to-remove dirt, do not leave the cleaner on the affected area any longer than instructed. Also, thoroughly rinse the area off with water, immediately dry it, and then apply a corrosion protection spray.
- Improper cleaning can damage plastic parts (such as cowlings, panels, windshields, headlight lenses, meter lenses, etc.) and the mufflers. Use only a soft, clean cloth or sponge with wa-

ter to clean plastic. However, if the plastic parts cannot be thoroughly cleaned with water, diluted mild detergent with water may be used. Be sure to rinse off any detergent residue using plenty of water, as it is harmful to plastic parts.

- Do not use any harsh chemical products on plastic parts. Be sure to avoid using cloths or sponges which have been in contact with strong or abrasive cleaning products, solvent or thinner, fuel (gasoline), rust removers or inhibitors, brake fluid, antifreeze or electrolyte.
- Do not use high-pressure washers or steam-jet cleaners since they cause water seepage and deterioration in the following areas: seals (of wheel and swingarm bearings, fork and brakes), electric components (couplers, connectors,

MOTORCYCLE CARE AND STORAGE

instruments, switches and lights), breather hoses and vents.

- **For scooters equipped with a windshield: Do not use strong cleaners or hard sponges as they will cause dulling or scratching. Some cleaning compounds for plastic may leave scratches on the windshield. Test the product on a small hidden part of the windshield to make sure that it does not leave any marks. If the windshield is scratched, use a quality plastic polishing compound after washing.**

After normal use

Remove dirt with warm water, a mild detergent, and a soft, clean sponge, and then rinse thoroughly with clean water. Use a toothbrush or bottlebrush for hard-to-reach areas. Stubborn dirt and insects will come off more easily if

the area is covered with a wet cloth for a few minutes before cleaning.

After riding in the rain or near the sea since sea salt is extremely corrosive carry out the following steps after each ride in the rain or near the sea.

1. Clean the motorcycle with cold water and a mild detergent after the engine has cooled down. **NOTICE: Do not use warm water since it increases the corrosive action of the salt.** [ECA10791]
2. Apply a corrosion protection spray on all metal, including chrome- and nickel-plated, surfaces to prevent corrosion.

After cleaning

1. Dry the motorcycle with a chamois or an absorbing cloth.
2. Use a chrome polish to shine chrome, aluminum and stainless-steel parts, including the exhaust system. (Even the thermally in-

duced discoloring of stainless-steel exhaust systems can be removed through polishing.)

3. To prevent corrosion, it is recommended to apply a corrosion protection spray on all metal, including chrome- and nickel-plated, surfaces.
4. Use spray oil as a universal cleaner to remove any remaining dirt.
5. Touch up minor paint damage caused by stones, etc.
6. Wax all painted surfaces.
7. Let the motorcycle dry completely before storing or covering it.

EWA10941

WARNING

Contaminants on the brakes or tires can cause loss of control.

- **Make sure that there is no oil or wax on the brakes or tires. If necessary, clean the brake discs and brake linings with a regular brake disc cleaner or acetone, and wash the tires with warm water and a mild detergent.**

MOTORCYCLE CARE AND STORAGE

- Before operating the scooter test its braking performance and cornering behavior.

ECAU26301

NOTICE

- Apply spray oil and wax sparingly and make sure to wipe off any excess.
- Never apply oil or wax to any rubber parts, plastic parts or headlight, taillight and meter lenses, but treat them with a suitable care product.
- Avoid using abrasive polishing compounds as they will wear away the paint.

EAU26301

Storage

Short-term

Always store your scooter in a cool, dry place and, if necessary, protect it against dust with a porous cover.

ECA10820

NOTICE

- Storing the scooter in a poorly ventilated room or covering it with a tarp, while it is still wet, will allow water and humidity to seep in and cause rust.
- To prevent corrosion, avoid damp cellars, stables (because of the presence of ammonia) and areas where strong chemicals are stored.

2. Drain the carburetor float chamber by loosening the drain bolt; this will prevent fuel deposits from building up. Pour the drained fuel into the fuel tank.

3. Fill up the fuel tank and add fuel stabilizer (if available) to prevent the fuel tank from rusting and the fuel from deteriorating.
4. Perform the following steps to protect the cylinder, piston rings, etc. from corrosion.

- a. Remove the spark plug cap and spark plug.
- b. Pour a teaspoonful of engine oil into the spark plug bore.
- c. Install the spark plug cap onto the spark plug, and then place the spark plug on the cylinder head so that the electrodes are grounded. (This will limit sparking during the next step.)
- d. Turn the engine over several times with the starter. (This will coat the cylinder wall with oil.)

WARNING! To prevent damage or injury from sparking,

8

TIP

- Consult a Yamaha dealer for advice on what products to use.
- Washing, rainy weather or humid climates can cause the headlight lens to fog. Turning the headlight on for a short period of time will help remove the moisture from the lens.

Long-term

Before storing your scooter for several months:

1. Follow all the instructions in the "Care" section of this chapter.

MOTORCYCLE CARE AND STORAGE

make sure to ground the spark plug electrodes while turning the engine over.

[EWA10951]

- e. Remove the spark plug cap from the spark plug, and then install the spark plug and the spark plug cap.
5. Lubricate all control cables and the pivoting points of all levers and pedals as well as of the sidestand/centerstand.
6. Check and, if necessary, correct the tire air pressure, and then lift the scooter so that both of its wheels are off the ground. Alternatively, turn the wheels a little every month in order to prevent the tires from becoming degraded in one spot.
7. Cover the muffler outlet with a plastic bag to prevent moisture from entering it.
8. Remove the battery and fully charge it. Store it in a cool, dry place and charge it once a month. Do not store the battery in an ex-

cessively cold or warm place [less than 0 °C (30 °F) or more than 30 °C (90 °F)]. For more information on storing the battery, see page 7-28.

TIP

Make any necessary repairs before storing the scooter.

SPECIFICATIONS

Dimensions:

Overall length:
1950 mm (76.8 in)

Overall width:
678 mm (26.7 in)

Overall height:
1057 mm (41.6 in)

Seat height:
770 mm (30.3 in)

Wheelbase:
1290 mm (50.8 in)

Ground clearance:
130 mm (5.1 in)

Minimum turning radius:
1938 mm (76.3 in)

Weight:

With oil and fuel:
110.6 kg (243.8 lb)

Engine:

Engine type:
Liquid cooled 4-stroke, SOHC

Cylinder arrangement:
Forward-inclined single cylinder

Displacement:
132.6 cm³ (8.1 cu.in)

Bore x stroke:
54.0 x 57.9 mm (2.13 x 2.28 in)

Compression ratio:
10.80 :1

Starting system:
Electric starter and kickstarter

Lubrication system:
Wet sump

Engine oil:

Type:
SAE20W-40 or SAE20W-50

Recommended engine oil grade:
API service SG type or higher, JASO
standard MA or MB

Engine oil quantity:
Periodic oil change:
0.80 L (0.85 US qt) (0.70 Imp.qt)

Final transmission oil:

Type:
Yamalube 4 Stroke or SAE 10W-30 API
Service "SE" type motor oil

Final transmission oil quantity:
0.23 L (0.24 US qt) (0.20 Imp.qt)

Cooling system:

Recommended coolant:
YAMAHA GENUINE COOLANT only

Coolant reservoir capacity (up to the
maximum level mark):
0.25 L (0.26 US qt) (0.22 Imp.qt)

Radiator capacity (including all routes):
0.51 L (0.54 US qt) (0.45 Imp.qt)

Air filter:

Air filter element:
Wet element

Fuel:

Recommended fuel:
Regular unleaded gasoline or gasohol
(91 min. pump octane)

Fuel tank capacity:
4.8 L (1.27 US gal) (1.06 Imp.gal)

Carburetor:

Manufacturer:
MIKUNI

Type x quantity:
BS26 x 1

Spark plug (s):

Manufacturer/model:
NGK/CR7E
Spark plug gap:
0.7–0.8 mm (0.028–0.031 in)

Clutch:

Clutch type:
Dry, centrifugal automatic

Transmission:

Primary reduction system:
Helical gear
Primary reduction ratio:
42/16 (2.625)
Secondary reduction system:
Helical gear
Secondary reduction ratio:
46/12 (3.833)
Single speed automatic (rear/front):
2.273-0.822:1

Transmission type:
V-belt automatic

Operation:
Centrifugal automatic

Chassis:

Frame type:
Steel tube underbone
Caster angle:
26.00 °
Trail:
110.5 mm (4.35 in)

SPECIFICATIONS

Front tire:

Type:
With tube (Spoke wheel)/
Tubeless (Cast wheel)

Size:
70/90-16 36P

Manufacturer/model:
IRC/NF59 E DUNLOP/D110 M, D110L

Rear tire:

Type:
With tube (Spoke wheel)/
Tubeless (Cast wheel)

Size:
80/90-16 48P

Manufacturer/model:
IRC/NR76 E DUNLOP/D110 M, D110L

Loading:

160 kg (353 lb)
(Total weight of rider, passenger, cargo and
accessories)

**Tire air pressure (measured on cold
tires):**

Front:
200 kPa (29 psi) (2.00 kgf/cm²)
Rear:
225 kPa (33 psi) (2.25 kgf/cm²)

Front wheel:

Wheel type:
Spoke wheel/Cast wheel
Rim size:
16×1.40/16×MT1.6

Rear wheel:

Wheel type:
Spoke wheel/Cast wheel
Rim size:
16×1.60/16×MT1.6

Front brake:

Type:
Single disc brake
Operation:
Right hand operation
Recommended fluid:
DOT 4

Rear brake:

Type:
Drum brake
Operation:
Left hand operation

Front suspension:

Type:
Telescopic fork
Spring/shock absorber type:
Coil spring/oil damper
Wheel travel:
100.0 mm (3.94 in)

Rear suspension:

Type:
Unit swing
Spring/shock absorber type:
Coil spring/oil damper
Wheel travel:
90.0 mm (3.54 in)

Electrical system:

Ignition system:
DC, CDI
Charging system:
AC magneto

Battery:

Model:
GTZ5S
Voltage, capacity:
12 V, 3.5 Ah

Headlight:

Bulb type:
Incandescence

Bulb voltage, wattage × quantity:

Headlight:
12 V, 25 W/25.0 W × 2

Tail/brake light:
12 V, 5.0 W/21.0 W × 1

Front turn signal light:
12 V, 10.0 W × 2

Rear turn signal light:
12 V, 10.0 W × 2

Auxiliary light:
12 V, 3.4 W × 2

Meter lighting:
LED

High beam indicator light:
12 V, 1.4 W × 1

Turn signal indicator light:
LED

Engine trouble warning light:
LED

Fuse:

Fuse:
10.0 A

CONSUMER INFORMATION

Identification numbers

Record the key identification number, vehicle identification number and engine serial number in the spaces provided below for assistance when ordering spare parts from a Yamaha dealer or for reference in case the vehicle is stolen.

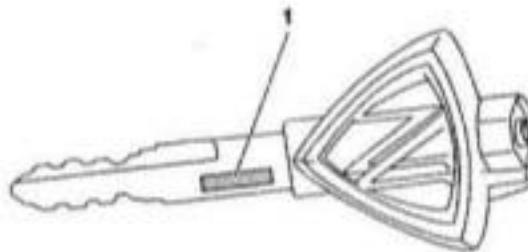
KEY IDENTIFICATION NUMBER:

VEHICLE IDENTIFICATION NUMBER:

ENGINE SERIAL NUMBER:

EAU06360

Key identification number



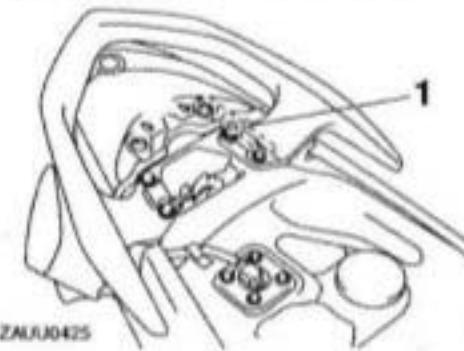
ZAUU0424

1. Key identification number

The key identification number is stamped into the key. Record this number in the space provided and use it for reference when ordering a new key.

EAU06390

Vehicle identification number



ZAUU0425

1. Vehicle identification number

The vehicle identification number is stamped into the frame.

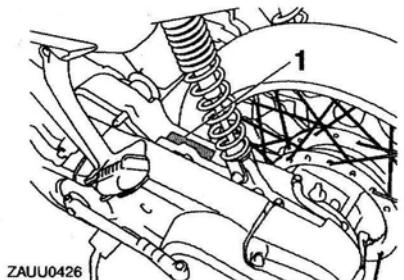
TIP

The vehicle identification number is used to identify your motorcycle and may be used to register your motorcycle with the licensing authority in your area.

CONSUMER INFORMATION

Engine serial number

EAU26450



1. Engine serial number

The engine serial number is stamped into the final gear case.

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